Historic, Archive Document

Do not assume content reflects current scientific knowledge, policies, or practices.

RECEIVED
FEB 16 1909
U. S. Department of Agriculture

AN ILLUSTRATED FARM AND FAMILY JOURNAL

FARM AND FIRESIDE



EASTERN EDITION

Vol. XXXI. No. 13 SPRINGFIELD, OHIO, APRIL 10, 1908 TERMS—{1 Year, 24 Numbers, 25 Cents. 5 Years, 120 Numbers, $1.00.

Coffee Raising in Hawaii

HAWAII has approximately ten thousand acres of land planted to coffee, and there are nearly three hundred thousand acres more available for that purpose. The annual crop from these planted acres is from one thousand to fifteen hundred tons, for which an average of about ten and one half cents a pound is received. Or, to be more definite in the matter of figures, the value of the coffee exported by the islands in 1906 was $248,593, which was a gain of $74,976 over the exports of the preceding year. In pounds the exports of 1906 amounted to 2,147,154.

Hawaiian coffee is listed as "a mild bean of the Java type." The windward areas of the islands produce a broad, flat bean, that, when properly aged, is especially similar to this popular brand, and, in fact, is said to be almost indistinguishable from the best Old Government Java.

The coffee marketed from Hawaii is sold in direct competition with Mexican and Central American coffees. The growers now, as has been stated above, receive an average price of about ten and one half cents a pound, and they say that an average of at least ten cents a pound is absolutely necessary for the continuation of the industry. They further claim that if prices should advance, or if they were to receive government protection, the possibilities of coffee growing in the islands would become especially great, as this industry thrives in a zone that is almost ideal for white labor. The coffee lands are at an elevation of from one thousand to twenty-five hundred feet.



VIEW OF A FULL-GROWN COFFEE TREE, SHOWING HEIGHT AND GENERAL APPEARANCE



A GENERAL VIEW OF A COFFEE PLANTATION, WITH NATURAL SHADE TREES

There are several methods of coffee cultivation in vogue on the islands, these depending on the district in which the land is located. Coffee fields require shade, and if the land to be set with coffee plants is covered with a heavy forest, a portion of the larger trees are felled, and allowed to rot on the ground, while a number sufficient to give partial shade to the entire area are left standing. If the land selected is not covered by a forest so that it can be thinned to leave a distribution of shade trees, it is deemed best to clear it completely, plow it up and plant trees for shade at the same time that the coffee is set out.

The seed is sown in beds, and when the plants are about a year old they are transplanted to the field. The plants are set in rows, eight feet apart each way. Rich soil, however, will permit closer planting, while shallow, rocky soils will sometimes be set in still wider rows. The distance here given is for ordinary fields.

Where the land is not plowed before the planting, it is customary to permit ferns and other low vegetation to remain on the ground until the trees are two years old. This is done to lessen losses of young plants from the depredations of various kinds of insects. If the land is cleared and plowed before the planting, sweet potatoes or other small vegetables are usually farmed between the rows of coffee trees during the first three years. Coffee trees begin to produce a few berries when three years of age, but do not bear a full crop until five years old.

Harvesting the crop consists in picking the ripe, cherry-like berry, after which it is run through a pulping machine, which removes the outer soft portion, or the berry. The seeds are enclosed in a thin, hard shell, known technically as the parchment. After being pulped, the seeds or beans are placed in water-tight trays to ferment, and then are wash dried. The parchment is now removed, and the green coffee is sorted, polished and graded by machinery. It is then sacked and is ready for the market.

The average yield of coffee to the acre in Hawaii is about fifteen hundred pounds, or the range is from one thousand to twenty-five hundred pounds. To produce the latter amount to the acre, however, the land must be extremely rich, and must be well fertilized and cultivated. The best yield is had where there are grown natural or artificial shade trees and the coffee trees are topped about six feet from the ground. The topping is not done where there is no other shade provided.

Coffee raising is already a very valuable industry, but the outlook is still much brighter. It is a field that seems to offer a certain profit to the investor, and at present there is not a plantation in Hawaii, it is said, that does not pay at least seven per cent per annum. The larger portion of the exported crop comes to the United States and finds a ready market.

CHAS. A. BYERS.

◈

SIMPLE PROBLEMS

If a man multiply every grain of corn that he plants by 6,388 rays of sunshine, and add 2,399 drops of rain, how many bushels will he gather an acre, and how much will he receive a bushel?

A foolish farmer sold his land at twenty dollars an acre, and moved to town. At the end of a year he bought the same land back for twenty-eight dollars an acre. How much was he in debt, and how much wiser was he than before? W. J. B.

See Half a Regiment of Roosevelts on Page 22

FOUR ENEMIES OF TREES

Endless miles of forest was what seems to have most impressed the men who first traveled through America. The whole country appeared to be a natural park filled with trees and crossed at intervals with great rivers and lakes. What it then looked like, where now are cities and towns, is past finding out, but a visit to the few forest reserves that still remain will give as nearly as may be an idea of the primeval America that the first explorers saw.

The woods have gone, all but little patches here and there, that, compared with what once was, are mere garden groves. How it happened so is at once a story of how man made a conquest of the wilderness and how man and Nature together made costly waste.

Ever since the American forests were discovered they have had four unceasing enemies: Man, Fire, Wind and Water. The combined forces of these destructive agencies have during three centuries swept off the continent the greater part of its covering of trees, some of which have gone to good use, but most of which have been wasted and lost. There has been both victory and tragedy in the felling of the trees.

MAN THE FIRST ENEMY

The first of it was by the early settlers cutting away from the original woods a place to build a home, and then a place to make a farm. They were laying the foundations of the nation. But as they increased in numbers and widened out their farms, they ate more and more hungrily into the great parks that Nature had left, and, tree by tree, those parks were leveled down. Then came the lumberman, who went into the woods not so much to clear away a space for building or farming as to get timbers for use elsewhere. He is still with us, but the cutting-away process has been carried to such length that he has had to continually move inland and northward, until now the lumbering operations are confined largely to the Northern states, like Minnesota and Wisconsin, the Far West, like Washington and Oregon, and the Canadian provinces across the border. Year after year of constant cutting has almost depleted what to the men who first saw them seemed limitless and inexhaustible forests.

There is something very suggestive of strength and courage in the way man has made this conquest of the wilderness. Putting his persistent industry against the might and bigness of many millions of forest monarchs, he has reduced the plains and hillsides of a score of states to the service of modern industry. If he has been the enemy of the trees, the forest was first his enemy, and he went bravely to the fight. He has won, but at great cost; for he has become so lumber hungry that the trees are almost gone, and now the need of them is keenly felt.

The fire enemy came soon after man. First were the fires that the farmers purposely set to burn away the wood from their clearings. Great and hot were those old-time blazes, when cords upon cords of good hard oak and maple and birch, woods that to-day are increasingly difficult to get, were burned just to get the land rid of it. As late as fifty years ago settlers in some of the Northern states made a practise of clearing their land in this way, and the wastefulness of it is now all too apparent.

But there were other fires which did even greater havoc to the forests, and with less reason. The farmers' bush fires sometimes spread further than was intended, and many acres of standing wood were consumed before they could be put out. When the railways came the danger was greatly increased. Passing trains spread live sparks from the locomotives, which fell upon the tinder of dry forest growths and set the woods ablaze. In northern Michigan, Wisconsin and Minnesota is an immense tract thus laid waste about twenty years ago, which still remains a dreary wilderness of dead sticks and charred stumps. Many thousands of dollars' worth of the finest spruce and pine were destroyed. In 1825 four thousand square miles of timber land were burned over and practically ruined in New Brunswick. In Michigan, Ontario, British Columbia, but particularly on the slopes of the Rockies and Cascades, fierce forest fires still rage every summer, and only a careful system of fire ranging prevents them from spreading beyond control.

Wind is the third enemy of the woods It is not so serious a one as either of the others, and is less seldom at fault; but there are tracts of timber land, particularly on the Pacific slopes, where mighty mischief has been done by gales of hurricane force. There is nothing quite so unmanageable as a stretch of timber land that has been reduced to a tangled mass of fallen forest debris by wind.

And the fourth of these forest-tree enemies, water, must also be counted upon as an agency of destruction. From time to time large tracts of low-lying forest land have been swamped by rising floods, and practically swept of their trees. The damage in this way has, of course, been limited; but the water has caused immeasurable loss by the carrying away of logs after the lumbermen have cut them. Only last June a gorge of seven hundred thousand sawlogs in West Virginia broke loose and swept down Guyandotte River, tearing away bridges and everything in its path. A large portion of the logs were lost. Whenever logs are floated in a "drive" there is sure to be a percentage of them lost by either breaking loose and drifting away or by catching in snags and sinking. Last spring almost the entire season's cut of logs was swept away by a sudden rise of the Saskatchewan River in Alberta, and drifted down the swift current beyond rescue.

WASTE IS REAL DISASTER

With four such enemies as these it is small wonder that the forest trees have a hard time of it. That they were being depleted even for necessary business purposes would be matter enough for regret, but the utter waste by fire, wind and water—yes, and by man, too—is real disaster. Since the days of Champlain and LaSalle there has been a sorry war on the trees.

It is of interest, however, to note that of these several tree enemies, one, and



BRANCH OF COFFEE TREE, SHOWING BERRIES

one only, leaves a way open for remedy. Fire, wind and man do destruction that is irreparable, but some of the water's mischief can be recovered. In the upper Mississippi, for instance, where millions of logs have been sunk while floating to the mills, a profitable industry has grown up in the raising of the logs, which first sank through their being soggy and water soaked or by catching against obstructions in the river. They are raised by a hoisting engine on a flatboat, and a great amount of the best pine timber has been recovered in this way in Minnesota and Wisconsin. On the St. Clair River, between Michigan and Ontario, a man makes a comfortable living by pulling up sunken logs with a tackle and windlass rigged on a double scow. He has for years scrutinized every mile of the river bed, and knows where good, sound logs in twos and threes and sometimes in good-sized piles are lying submerged. With his clumsy scow he is doing in a small way what on the upper Mississippi is developing into a substantial business. The logs are quite uninjured by their long submergence in the water, and it is fortunate that in this way the havoc worked by at least one of the forest enemies can be partially remedied.

Aubrey Fullerton.



BURNED-OVER FOREST

Protect the Home by Planting Windbreaks

A Thicket of Rapid-Growing Trees is Effective

A young farmer in Missouri says: "You cannot write too much in favor of windbreaks. I have learned their value. Keep at the farmers until every farm home is protected from the windstorms of the West."

Another farmer living in Nebraska writes: "Tell us more about planting windbreaks and covering the rough spots on our farms with trees. We must plant more forest trees. Farmers cannot handle their land to best advantage without fences, and fences call for posts. Then we must soon have lumber for all the purposes for which lumber is used, and the only way to get it is to grow it. We have destroyed our great forests, and it is plain that hundreds of manufacturing plants will soon become idle and useless if tree planting is not begun at once."

Not long ago, at a farmers' institute, a farmer stated that he considered his land too valuable to plant forest trees on it. Some one asked him where we were to obtain fence posts and lumber. He said, "We looked out for ourselves in our time; let the next generation do the same for themselves. We will grow food crops—crops that will bring us the cash we can use for our own benefit—and those who come after us can grow what they please or most need." And his remarks were greeted with approval by all the older farmers present.

It is unfortunate that this sentiment has prevailed, and still prevails, among farmers, especially the older ones. Some of the young, more progressive men are acting in a broader spirit, and are planting trees, not for their own benefit alone, but for those who will come after them. These are the men who are seeking light on the subject.

In planting hillsides that wash and gully it is best to plant in rows across the face of the hill. I would set the trees not over six feet apart, and the distance between the rows would depend on whether I desired to pasture the land or to make a forest of it. I think it will pay best to make forests of such land. One will gain in the value of the wood what he loses in pasturage. In planting for forest I would have the rows eight to twelve feet apart. This is close planting, but it pays. Some of the trees will die out while very young, and as they grow, the stronger and more thrifty smother the weaker ones, so that the stand will not be too great at any time, except here and there, and these spots can be thinned.

One must take care of a forest, the same as any other crop. Cut out unthrifty and very crooked trees, and don't allow dead wood to accumulate in the grove. After one gets a hillside well forested he will take more and more pride in it as the years go by. He will see it growing into value year by year, and a piece of land that was next to worthless yielding a crop that has a larger money value than anything else he ever could have grown on it.

As to the variety of trees he will plant, he should look about his locality and see what has done well. In many localities in what is termed the "corn belt," Catalpa speciosa is an excellent tree to plant. It grows rapidly, stock does not eat it while young, and its wood is very valuable for both posts and boards. Black locust does well in many localities. It makes excellent, lasting fence posts, grows rapidly and seems well able to take care of itself. It sprouts to a considerable extent, but can be kept within reasonable bounds if properly attended to. It has an ugly enemy in the borer. Sometimes this borer will destroy an entire plantation in a few years. Then there are the various kinds of ash. They grow quite rapidly and the wood is excellent for many purposes.

I think that the experiments in preserving fence posts now being conducted by the Department of Forestry will eventually result in the discovery of some cheap and effective method of rendering posts impervious to the action of the agencies which now destroy them so quickly. Then posts made of the softer, quick-growing trees will be quite as valuable as those from the slow-growing hard woods.

In planting a hillside, ravine or other rough spot it is not necessary to plow the land nor tear up the sod. The young trees will not start as quickly nor make as thrifty growth the first few years as they will in cultivated ground, but they will make their way, and if planted rather closely, will soon smother out anything that may tend to injure them.

In the matter of planting windbreaks, I think it a good idea to plant a thicket of rapid-growing trees. A single row does little good, and two or three rows are not so effective as a thicket—that is, six or eight rows planted rather closely together, say six feet apart and three to six feet apart in the rows. Soft maple, cottonwood, ash or any other rapid-growing trees may be used. Where ash succeeds it seems to give excellent satisfaction for this purpose. As they grow, the more thrifty will kill out the weaker ones, but this will not impair the effectiveness of the windbreak.

The Nebraska farmer says he planted soft maple first, but a hot, dry summer killed nearly all of them. Then he planted cottonwood, and they have lived, and now make a splendid windbreak. He says he has traveled over a great part of the West, and his observations have satisfied him that one should plant trees that seem to do well in the locality in which he lives. He may experiment with others, but for business he would plant native trees.

For windbreaks and groves I notice that people generally are inclined to plant the kind of trees they can most easily and cheaply procure. Along the bluffs of some of the rivers are lots of young cedars which can be had for the digging, and they make a very good windbreak. They grow quite rapidly in good soil. If I were a young man going on a farm on the open prairie I would plant as many of them as I could afford or could get. I would plant a thicket on the west side of the farm home and other buildings that would positively stop all the flying snows and blizzard winds that came along.

A farmer who planted four rows of cedar on the west side of his home, beginning at the road eighty feet south of his house, and running back nearly a quarter of a mile, told me several times that he believed that that one planting was the best thing he ever did in his life. He said, "I have actually gotten more benefit from that little belt of trees than I could have gotten from a hundred times the sum spent in lumber. I have since widened the belt to fifteen rows, and am only sorry I did not pinch a little closer and do that at the time I set the first ones. But you have no idea what a vast difference that belt makes when a blizzard or hard windstorm is on. Before it became effective my yard was swept by every blast that came along, and everything movable was whirled away. I have had snow drifts ten feet high on the lee side of my house and other buildings, and hog pens filled even with the top of the fence. Nothing of that sort occurs now. I have a grove of maples on the north side of the yards, and the belt of cedars and this grove prevent all drifting of snow. You cannot write too much in favor of planting windbreaks. They should be on the west and north of every farmhouse."

He said he would plant cedars about five feet apart in rows eight feet apart, and not nearer than thirty feet of the buildings. Other trees, like soft maple, ash, etc., he would plant four to six feet apart in rows eight to ten feet apart for windbreaks, and not nearer than thirty feet from the buildings, and forty is still better.

I cannot understand why farmers do not plant windbreaks. The added comfort to themselves and stock, to say nothing of the great saving in fuel and feed during blizzards and bitter windstorms, will pay for the little work and outlay ten times over in one season. One good farmer tells me that the principal reason why farm homes are not thus protected is because ninety-nine per cent of them are for sale. They are not homes, but temporary abiding places of their present owners. These men are after every penny they can wring from the land, then for a home in town. I believe he is more than half right about this matter.

Fred Grundy.

Marketing Farm Produce

Neatness, Cleanliness and Uniformity Are the Cardinal Virtues

While each of the various products of the farm and garden has to a greater or less extent its own particular characteristics, and requires a more or less different treatment, there are some general rules which will apply to every kind of produce and to every market.

The cardinal virtues in preparing all kinds of produce for market are neatness, cleanliness and uniformity. The fact that the goods packed are to be eaten should never be lost sight of, nor should it be forgotten that if they are to bring the very highest price they must be sold to people whose appetites are not easily tempted, but who have the money to pay for practically everything they crave, and who will, and do, pay well for the extra attractiveness which tempts them. With these facts in view the great importance of neatness and cleanliness is apparent.

It is not safe to aim at anything but the highest prices for good produce, for should a shipment deficient in any way as to style, form, neatness, etc., happen to reach the market at a time when either the demand is light or the supply is excessive, it will remain unnoticed until the "fancy" goods have been picked up by the buyers, and then, the demand having been supplied, must await the next day's buyers, suffering severely by the delay, and eventually being sold for a small price, perhaps less than the freight.

The following example is an every-day occurrence in the markets: Two fine lots of radishes will come to market, both lots of the finest quality. One lot will be made up into bunches, in each of which the radishes will be of equal size and the bunches neatly tied. In the other the bunches will contain radishes of various sizes, and the bunches be clumsily tied. The first buyer that comes along will buy the first lot at a fancy price, while the second lot will be neglected until the demand is exhausted, and will ultimately sell perhaps for almost nothing. Neatness and attractiveness invariably pay well for the trouble expended.

I think cleanliness is found lacking more often in the preparation of fruits than of other farm produce. Too often juice-stained cases injure the sale of really choice berries, or the dirty finger marks of the pickers on the boxes will turn away the buyer who would pay a fancy price for the same stuff in a clean case. It seems that it is almost needless to say that the presence of sticks, leaves or other rubbish invariably injure the sale, yet I see men who still put choice fruit up in just this manner, and as a result receive a very small price for same.

I find that such produce as potatoes will sell better when marketed in nice, clean sacks or well-filled barrels.

Uniformity is of the greatest importance and requires a little more effort. Some varieties of produce are invariably marketed in uniform packages. Eggs are shipped in the thirty-dozen case, this being the universal standard, but others, particularly fruits and vegetables, are put up in various packages; and while some suggestions may be made, the only safe rule to follow is to ascertain the requirements of the market or markets to which you aim to ship, and be guided by them. It may, however, be accepted as a practically unvarying truth that the finest produce will not bring the highest prices if packed in unusual packages.

Honesty should constitute the next general principle to be observed. The mere mention of it may seem out of place, but it is not only from a moral standpoint, but also from a money-making standpoint that it should be considered. I think that there is no business in which a man should be more honest, while at the same time it seems that there is no business in which it is so often neglected. I think I am safe in saying that in every instance when petty deception is attempted it proves injurious to the shipper.

Probably the dishonesty most commonly practised is improperly "facing" packages, such as barrels of apples, potatoes and other fruits, baskets of peaches, and particularly boxes of berries. The trick has been tried so often that even the most inexperienced buyer looks for it. Before buying a case of berries every buyer will take out several boxes, one after another, and upset them into his hand. This, of course, exposes practically all the berries in the box, and if any deception has been attempted he is apt to lose faith in the whole shipment.

With such packages as baskets of peaches, plums, etc., several slits are cut in the sides, in this way exposing the contents from top to bottom. Pieces are often removed from the sides of barrels with sharp hatchets, to expose the contents, and when the shipper is successful in fooling the buyer, the latter, discovering that he has been deceived, not only ever after refuses to purchase goods coming from the same shipper, but also relates the story to his fellows, and the story usually grows as it travels, until even the most fancy stock is neglected because it bears the shipper's name, trade mark or number.

On the other hand, when the shipper takes care to put up nothing but first-class packages, it generally results in building up for himself an enviable reputation, securing for his shipment the top of the market, because of the known unvarying good quality.

Packing is, after the quality of the produce, the next most important consideration. A little study of the route your produce must take to reach the consumer will convince you of this. A typical trip will be as follows: Several miles' ride in a spring wagon from farm to railroad, over a more or less rough road; then ten to five hundred miles or sometimes even one thousand miles on the railroad, carelessly handled by the trainmen loading the produce on the wagons of the commission merchant, and hauling over rough city pavements to his store; exposure for some time, and another haul to the store of the retailer, where it is exposed for sale, and usually another haul at lively speed to the home of the consumer. Just consider what this means to tender fruit or vegetables, and the necessity of extreme care becomes obvious.

To pack properly requires experience, but some practical suggestions may prove helpful. On a farm where considerable stuff is shipped there should be a packing shed. I have found that a tight roof on poles is very good and is cheap, as the more air and light there are, the better.

Decay is the great enemy to be guarded against. Heat and moisture are the greatest promoters of decay. When it is possible, I find that it is well to let fruit and vegetables cool from the heat of the day before packing. Make sure they are perfectly dry, and pack tightly, taking care to bruise nothing. Either too tight or too loose packing results in bruising, for if after being shaken down in transportation there is room in the package for the contents to shake about, they will certainly be bruised.

In packing fruit, particularly, let the degree of ripeness in each package be uniform. When hard, unripe fruit is put in the same package with tender, ripe fruit, the latter will be bruised.

Where it is possible, oversee the loading of the car, and see that space is left for free circulation of air between the boxes, crates, etc., as this will do much to prevent heating and decay.

R. B. Rushing.



LATTY GRANGE NO. 621, PAULDING COUNTY, OHIO

This Grange was organized in 1874 with thirty-seven charter members, and for several years conducted a successful grange store. It became dormant in 1882, but was reorganized in 1901, and now is a flourishing Grange with about forty active members.



COMBINATION FARM SALE IN PROGRESS

From twenty-five to fifty different farmers offer animals, implements and other farm articles for sale at these farm sales, and are themselves buyers.

THE FARMERS' COMBINATION SALE

An institution through which a farmer markets his surplus products, sells a great variety of things for which he has no further use, and buys second-hand articles for which he has found temporary or permanent need, has got a big spread in northern Illinois and southern Wisconsin counties.

In different localities this institution is known by different names, but its function is the same everywhere. In Wisconsin it is known as the "Combination Sale;" in Illinois it is called "Market Day."

On certain days farmers of a township will meet in the capital city or the town, hauling with them all of the products that they desire to turn into cash. They will also take with them any implements or household utensils for which they have no further use. They may also lead behind the wagon a steer, a cow, a horse or a calf. When they get to town they enter for sale anything that they may have brought along, and then the whole motley collection is turned over to the auctioneer, who undertakes to do the rest. The auctioneer is paid one per cent of whatever he may get for an article, and every sale is a sale, no matter what the price is.

Of course, there are some things that the auctioneer does not handle—horse and cow trades, for instance. These exchanges are effected among the farmers who bring and take. Then there are town people who buy produce from the country traders without it being put under the hammer. The trading lasts most of the day.

There are some queer happenings at these market-day events. No one is surprised at anything that may turn up at the combination sale. It may be a mowing machine, a dismantled windmill, or any article that improvement in farm implements has thrown out of use. In a list of the things that are put up at one of these sales the entire gamut of farm contrivances is run. The collection includes many articles of household use, for farmers keep up with the times as well as the town people, and they are constantly replacing the old with the new. Some of the things that one man is ready to dispense with are greatly needed to fit an emergency by some other man, and it is at the market-day sale that the things are found.

Some of the farmers will haul to town the queerest sort of a collection. The articles may be scattered to a dozen different farms, but the same soil tiller is liable to haul back to his place a variety of second-hand things that are as odd as the collection he started away with in the morning. An article of farm or household use that one farmer takes away in the morning may be brought home in the evening to another farmhouse not a quarter of a mile distant. The buyer probably has seen it in the home of the seller a thousand times.

These are only a few of the ludicrous phases of the market-day sale. Thousands of things are bought by persons who have no use for them, but the thought that they might have has caused a bid, and that was the only one that was offered. There is always an immense amount of trading particularly in horses and cows. In the course of one season of these sales a cow or a horse may have spent the winter on half a dozen different farms.

In some localities two or three sales will take place in one winter, but in others one day of each month is set aside as market day, and a whole township attends. Sometimes they draw traders from a distance of fifteen miles or more.

J. L. Graff.

GETTING AHEAD IN THE WORLD

I have a letter from a young German that makes mighty good reading. His father worked nine years in an Eastern city, was a first-class mechanic in a wagon factory, and managed to save up three hundred dollars. Then he took his family to a farm in Minnesota, where after considerable hardship he succeeded in paying for the farm and building up a good home. He puts it this way: "Nine years in the city, a good mechanic, and three hundred dollars saved up. Nine years on the farm, and owner of a home worth ten thousand dollars. Some difference, you see." We often hear of German thrift. This is a good example of it. This young man says:

"I learned the mason trade as soon as I was large enough, and have managed to save up nearly thirty-five hundred dollars, and back to the farm I must go, to the sweet-scented fresh air, life-giving sunshine and quiet surroundings. What I will soon have is a farm of my own, a home of my own, and I will value it at its full worth, because I have earned it by hard knocks in a rough world."

He says, further, that there is no reason why a young man should not get ahead in the world. And in this he is seconded by another young man, who writes that he has saved up nearly three thousand dollars, and has it in a sound savings institution that is paying him four per cent interest. He says he never had any opportunity to acquire a good education, and this, he finds, handicaps him to some extent; but he has been faithful and painstaking and has earned every penny he has by good work.

He says he has worked side by side with many young men, and the proportion who have been raised to better positions and larger pay is so small that one would be surprised to hear it. He says: "I can see plainly enough why they have not risen. There are three principal reasons for it. One is liquor, another tobacco, another late hours and carousing, and still another, poor work. They say I am a favorite, and am lucky, and so on; but I know I have earned all I have gotten. If I did as they do I would be where they are. I have won simply by attending strictly to business, keeping my mouth shut, and doing good work."

This boy is only twenty years old. See what he has done for himself. Note how he has won—the qualities that have won for him. His parents have passed away, but what a grand monument he is to them—a brave, steady, rising young man, who by sheer faithfulness has won the respect of his employers, and is marching upward to that glorious success which surely comes to such as he.

F. G.

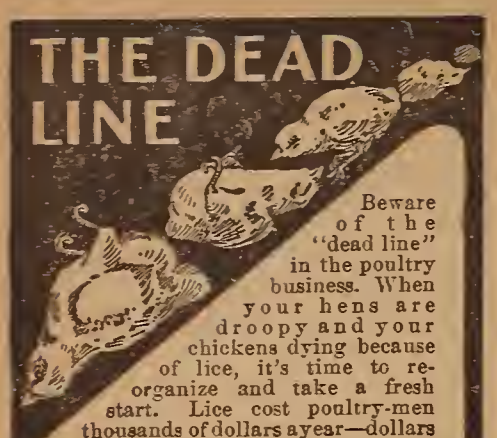
Hey de diddle,
The farmer's in the middle
Of work as high as the moon,
But it makes him laugh
To indulge in such sport,
For he'll take a little nap at noon.

If you know that some of your neighbors and friends do not take Farm and Fireside, send their names to us, and we will send them samples; or, if you wish, we will send the samples to you, and you can give them to your friends yourself. After they see the copies you can easily get them to subscribe.

A BLUE MARK

in the square below indicates that you are an old subscriber and that *your subscription expires this month.*

Renew by accepting our offer on page 22 before April 30th.



Beware of the "dead line" in the poultry business. When your hens are droopy and your chickens dying because of lice, it's time to re-organize and take a fresh start. Lice cost poultry-men thousands of dollars a year—dollars that might easily be saved by a simple resort to a sure remedy.

Instant Louse Killer

kills lice so thoroughly and effectually that **one** application will most likely end your trouble. Instant Louse Killer is the formula of Dr. Hess (M.D., D.V.S.), and destroys lice on horses and cattle, ticks on sheep, cabbage worms, rose slugs and bugs on melon, squash and cucumber vines. It is also an excellent disinfectant and deodorizer. Comes in shaker-top cans, hence easy to apply, because you can dust it over roosts, nests and platforms in a few moments' time. See that the word "Instant" is on the can—none other is genuine.

Sold on a written guarantee.

1 lb. 25c. **3 lbs. 60c.** } Except in Canada and extreme West and South

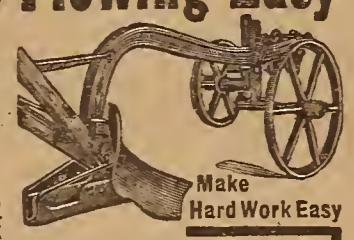
If your dealer cannot supply you, we will send 1 lb. by mail or express, prepaid, for 35c.

Manufactured by

DR. HESS & CLARK,
Ashland, Ohio.

Make Plowing Easy

The Wonder Plow Trucks



Attach to any walking plow—one or two-horse, right or left hand, wood or steel beam. They regulate depth and width of furrow, and lighten the draft on horses at least one-third. The furrow wheel acts like a pivot, just like wheel of wheelbarrow. You do not touch your hands to the plow, except in turning at end of furrow. Your twelve-year-old boy can plow with the Trucks as well as a man. You don't need to take our word for this—test them yourself at our risk. Greatest money-maker for agents ever put on the market. They sell on sight. Big profits and good territory still open. We give a sample set of Trucks free to all new agents.

Retail price only $5.00. Write at once for full particulars.

WONDER PLOW COMPANY,
311 Factory St., St. Clair, Mich.

30.95 3 YEARS GUARANTEE
ON HIGH GRADE VEHICLES



SEND TODAY for our FREE VEHICLE CATALOGUE, a handsome book printed in colors and explaining our low prices, three-year guarantee and free trial offers on road wagons, runabouts, top buggies, surreys, spring wagons, road carts, pony rigs and harness; also our wonderful arrangements for QUICK DELIVERY, SMALL FREIGHT CHARGES and a buggy built special for your roads and climate,

SHIPPED DIRECT FROM OUR WAREHOUSE IN YOUR STATE.

IF YOU WANT A FARM WAGON, delivery or business wagon, farm truck or log truck, send for our free Wagon Catalogue which explains our long time guarantee, our low prices and free trial offer.

FARM WAGONS $31.15 and up



Address, **SEARS, ROEBUCK & CO., Chicago**

HENCH'S 20th Century
Steel Ball Coupling Pivot Axle Cultivator with Double Row Corn Planter and Fertilizer Attachment complete in One Machine.



Awarded **GOLD MEDAL** at World's Fair, St. Louis. A wonderful improvement in cultivators, combining every possible movement of gangs and wheels required. Easily changed to different styles.

Thousands in use. M'fr'g of all kind of Ag'r'l Implements. Agents wanted; write for circular.

The Hench & Dromgold Co., Mfrs., York, Pa.



Make your own Fertilizer at small cost with **Wilson's Phosphate Mills**
From 1 to 40 H. P. Send for catalogue.
WILSON BROS., Sole Mfrs. Easton, Pa

Review of the Farm Press

SELECTING AND PLANTING SEED CORN

In the selection of corn for planting I would suggest that it be of early or medium early varieties. Though they aren't so large in the ear, they will stand closer, thicker planting and yield about as much shelled corn an acre as the Mammoth late sorts, and may be counted on as ripening before frost. The extremely large cob of the large, late varieties makes them slow in curing out in shock, and if the season is warm and wet, they are very likely to mold in the crib. The large late corn shows rather poor germinating powers many seasons.

No one knows just when to plant corn. It may be April 20th or May 20th. Early planting usually shows the soundest grain, and sometimes the best stand is secured in the early planting. This of course depends on the weather following planting. Sods should not be planted as early as open ground, owing to the greater danger of ravages by insects early in the season. Plant corn on sods three inches deep; on open ground, two to two and one half inches deep.

Having seed corn of known good variety, I have found it safe to plant open ground any time after April 20th and sod ground after May 10th.

I have known seed corn of strong vitality to remain in the ground three weeks during a cold spell and come on all right when conditions favored. Corn having weak vitality would have rotted.

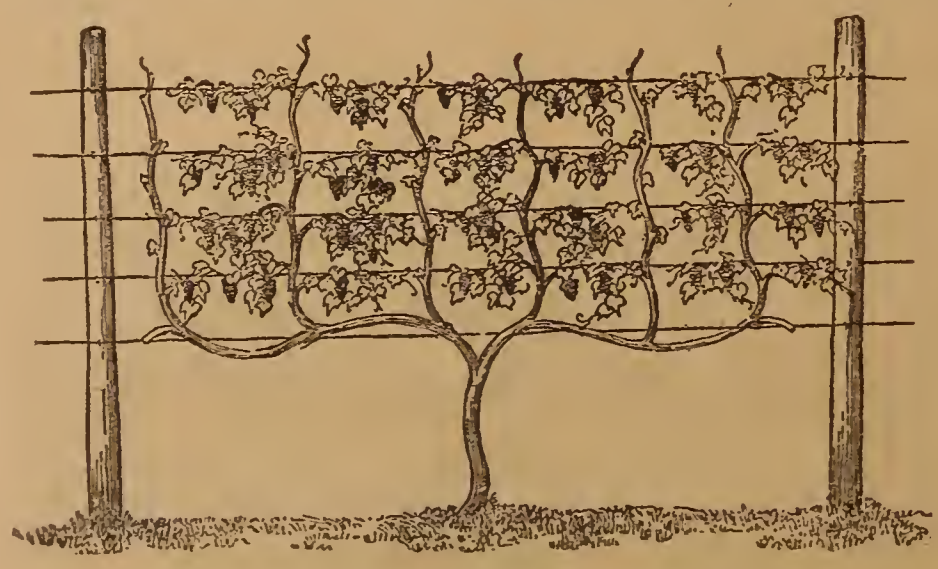
I have not lost a stand of corn by poor seed during the past fifteen years. I always select the choicest ears at husking, place in a swing shelf in the gable of the implement house, allow free circulation of air and select out the choicest ears again in spring. Our corn constantly improves by this method of handling.

Notwithstanding the advice of our scientific agricultural educators to go through the fields, tie strings on the best ears of the best hills and gather when fully matured, few farmers will ever care to do this, and the man who can induce the rank and file of farmers to practise the other easier and quite satisfactory way will be a great benefactor.—J. F. Kellar in The Inland Farmer.

◈

RENEWAL PRUNING

The renewal system of pruning and training grape vines requires a trellis composed of three or more wires or other suitable supports held up by means of posts or stakes. The vines are planted about ten feet apart immediately under these supports. The main trunk of the vine is carried to the lower wire or support. From this trunk a cane carrying about eight buds is trained along the lowest wire in either direction. From each of these buds shoots develop that bear the fruit of the season. Since these shoots are unable to stand erect, they must be tied to the wires across which they pass. This is one of the most satisfactory methods of training the grape, and one that is growing in favor each year.—Journal of Agriculture.



TRELLIS FOR A GRAPE VINE PRUNED AND TRAINED ACCORDING TO RENEWAL SYSTEM

◈

A COW PROBLEM FIGURED OUT

If by weighing and testing the milk of each cow at regular intervals during the year a dairyman should discover that twelve cows in his herd produced only 133½ pounds of butter fat each and returned only seventy-seven cents profit per cow a year, like the lowest one fourth of the 554 cows tested by this experiment station, how much would it add to his annual income if he were to replace them with twelve cows producing 301 pounds of butter fat each and making a profit of $31.32 per cow a year, like the highest one fourth of the same 554 cows?

The twelve poor cows would return a total profit of twelve times seventy-seven cents, or $9.24. The twelve good cows would return a profit of twelve times $31.32, or $375.84 for the year. The difference in these two profits is $366.60. This change of cows would increase the dairyman's annual profits $366.60.

Suppose the poor cows were sold to the butcher at $35 a head, and the twelve good cows were bought at $70 each, how much new capital would be invested in this dairy? The added profit would be what per cent of this new investment?

The twelve poor cows at $35 each would bring $420. The twelve good cows at $70 each would cost $840. It would be necessary to double the money received for the poor cows—that is, to put in $420 of new capital to pay for the twelve cows bought. The annual increase of profit, $366.60, is over eighty-seven per cent of the new capital.

Isn't an investment returning eighty-seven per cent annual interest good enough to warrant such an exchange of cows?—Wilber J. Fraser in Wallaces' Farmer.

◈

DISTANCE APART TO SET SHADE TREES

Shade trees of beautiful form are very scarce. It is surprising how few can be found in any one of our great city parks where trees have been planted close together. Nature sometimes gives us magnificent specimens, but they are usually found growing alone in some field or pasture where the ax of the woodman spared them long ago when they were very small. With nothing to shade them, they have grown up fully developed on all sides and have developed a large number of branches heavy with foliage. In a few of the great parks of the country this has been looked out for, and every tree has been given room in which to do its best. This is seen on the grounds near the Capitol at Washington, where are to be found some of the most magnificent trees in the country. They are a joy forever.

Planting trees close together will give shade, but will not give beautifully formed shade trees. A solid wall of trees along a country road will give shade, but they will not give the landscape effect that is to be obtained by having perfectly formed trees set at intervals of a hundred feet. The landscape effect is probably worth more money than the solid wall of shade, which at many times is of no benefit, such as on cool days in summer, on rainy days, on windy days and on days when the clouds obscure the sky. But the ornamental trees set at a hundred feet apart are ornamental at all times.

Moreover, the solid wall of trees frequently kills out the grass under its solid shade and leaves a bare and uninviting aspect below. The ornamental tree lets in enough of the sun to keep the grass alive, and the green sward vies with the green of the trees to produce a beautiful effect. A single great tree on a lawn is often both useful and ornamental. Its great branches hold the ends of the swing rope, and under its generous boughs the family meal is spread on a carpet of silken grass.

Unfortunately, the American idea of tree setting has been and is to get just as many trees in a certain area as possible.—The Farmers' Review.

HORSE KNOWLEDGE FOR BOYS

The feature of instructions which chiefly distinguishes the high-school course at Waterford, Pennsylvania, from the ordinary, lies in the prominence given to outdoor practical work. In plant studies the pupils examine not elaborately prepared drawings of flowers and plants, but the plants and vegetables themselves with reference to their life history and economic uses.

While the school building is located in the town, every good farm within a radius of three or four miles, and nearly every barn and poultry yard in the village, and the butcher shops and farm-implement stores, furnish, free of cost to the school, expensive illustrative material and extend vastly the teaching force of the high school. The farmers and owners of good live stock either bring their animals to the door of the school to be studied by the class in agriculture or allow the class to go to the barn or the fields for the purpose.

It is said to be a rare thing for a good horse or cow to come to the village and get away without being examined by the class of animal husbandry.

Or, the class goes to the livery barn, the driver brings his stallion out into the street, puts him through his paces and helps the teacher in calling attention to his good points and the contrast between the draft type of horse and the roadster type. It is an instructive lesson, not only for the class, but for the score or more of farmers and townspeople gathered about.

In the same way the local butcher is the instructor in the high school. The class studying the beef type of cattle or the mutton sheep is taken to the shop and learns the different cuts, the relative values, etc. Thus this little village high school, which pays only $2,320 a year for salaries and about $400 for other expenses, has a faculty made up of practical specialists and an equipment in illustrative material such as few technical high schools could afford, while the scholars are being trained in the elements of failure and success, not only on all the farms of the neighborhood, but in the village stores and markets. This is training for efficiency.—The American Cultivator.

◈

RENEWING FERTILITY

When land is thin the essential thing is to get a good clover sod. If a crop of corn is to be taken off the land this year, and oats follow the corn, the chances for a good crop of clover certainly will be poor unless there is plenty of manure for this land, and I assume that there is not. Oats is not a good crop with which to seed to clover, but if there is enough manure to provide fertility and the oats are seeded light a good stand may be obtained.

The man who has thin land and no adequate supply of manure will do well to grow a crop to furnish vegetable matter for the soil, omitting the oats. He can sow rye in the corn stubble, plow it down when a foot high and give some tillage until June 1st in northern Ohio. Then drill in soy beans at the rate of five pecks to the acre, using some steamed bone or acid phosphate.

In the first half of August put a weighted disk or cutaway harrow into the field, chopping the growth into the surface soil. A heavily weighted plank float will help fit the seed bed. Make the seed bed firm as possible, and don't worry about the trashy appearance of the surface. The trash is exactly where it should be.

Before the middle of August in northern Ohio, if possible, have the ground ready to seed to timothy, clover and redtop, without any so-called nurse crop. Six pounds of red clover, two pounds of alsike, four pounds of timothy and two pounds of redtop to the acre will make a seeding none too heavy.

A top dressing of manure before the seeding will be a big help. Commercial fertilizer will help. If the land is acid, put on lime before seeding to soy beans.—Alva Agee in The National Stockman and Farmer.

◈

GOATS AS BRUSH DESTROYERS

The owner of a badly brier-infested or brush-covered farm has before him an expensive and disagreeable task if he intends to clear it by natural labor. Many millions of dollars have been expended in this country in that kind of work, and many millions more will be spent in the same direction. But the Angora goat will do the work for nothing and will pay for the privilege. It prefers briers and brushes to the best clover and grass that was ever grown. An Iowa landowner has cleared six hundred acres of brier and sand brushes through this agency. He estimates that the goat has increased the value of this land at least ten dollars an acre, and while the animal has been making the owner money in that direction it has been contributing to his bank account with its hair, skin and flesh.—Oregon Agriculturist.

You Can Own A Factory Like This



WE START YOU In A Business Of YOUR OWN Right In Your Home Town

WE WILL START YOU

In the Glove Business and Show You How You Can Make One Dollar Grow Rapidly Into Two

We will start you in a prosperous business of your own right in your own town, we want you to start a Canvas Glove Factory, to become prosperous. We want to show you how this can be done on very little capital (from $30.00 to $145.00), with the possibility of making thousands of dollars within a short time.

We can give you a start where you can make Five, Ten, Fifteen or Twenty thousand dollars a year. This is not a get-rich-quick or catch-penny scheme, but simply an opportunity to get into the manufacturing business, which with a reasonable amount of work and attention to business will make a man or woman a prosperous factory owner in a short time.

We expect to start only a LIMITED number of these factories

On can be started in any spare room or small store room and be enlarged as the business requires. We do all this for you, start your factory, simply with the understanding that you buy your supplies from us so long as our prices are as low or lower than you can get elsewhere.

This Book FREE

We want to prove to you that everybody in the Glove business is successful and making money—for that reason we want you to get this book. This valuable book contains a great deal of information about the secrets of the Glove business and how anyone with a capital of from $30 to $145 can easily make money fast—right from the start. Send for it right now, today. It is free.

THE McCREERY MFG. CO.
718 Dorr Street, Toledo, O.



Clothing Made to Order at the Mill. Save Half

Buy your clothing direct from the mill. Cut out the dealer's profits. Get two suits for the price of one. Suits and overcoats

MADE TO ORDER

handsomely trimmed and guaranteed to give satisfaction. Many patterns to choose from.

Men's and Youth's Suits and Overcoats

MADE TO ORDER

$10.00 to $18.00

Our $12.50 Suits

A BIG VALUE

We make a specialty of suits at this price. They are of exceptional value. We have sold thousands of these suits, and we have testimonials from satisfied customers in all parts of the country.

Express charges paid east of the Mississippi River. Allowances made on all orders west of the Mississippi. Write for samples and catalog.

GLEN ROCK WOOLEN CO.,
207 Main St., Somerville, N. J.

160 Acre FARMS In Western Canada FREE

Illustration Showing Mixed Farming Scene in

WESTERN CANADA

Some of the choicest lands for grain growing, stock raising and mixed farming in the new districts of Saskatchewan and Alberta have recently been **Opened for Settlement** under the

REVISED HOMESTEAD REGULATIONS

Entry may now be made by proxy (on certain conditions), by the father, mother, son, daughter, brother or sister of an intending homesteader. Thousands of homesteads of 160 acres each are thus now easily available in these grain-growing, stock-raising and mixed farming sections.

There you will find healthful climate, good neighbors, churches for family worship, schools for your children, good laws, splendid crops and railroads convenient to market.

Entry fee in each case is $10.00. For pamphlet "Last Best West," particulars as to rates, routes, best time to go and where to locate, apply to

H. M. WILLIAMS, 413 Gardner Bldg., Toledo, O.; J. C. DUNCAN, 30 Syracuse Savings Bank Bldg., Syracuse, N. Y.; Canadian Government Agents.

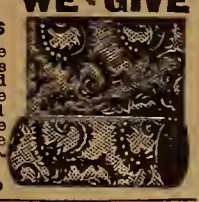


Take off your Hat to the YERS

Write for Circulars and Prices to
F. E. Myers & Bro.
Ashland, Ohio

THE PUMP THAT PUMPS | HAY TOOLS BARN DOOR HANGERS, HAY RACK CLAMPS

ASK US HOW WE GIVE Carpet, Curtains, Rugs



and over 1200 other nice things for the home with orders for groceries—tea, coffee, baked pork and beans, rice, soaps, pure foods, extracts, perfumes, etc. Send for **Catalog** telling "How the Housewife Can Furnish Her Home Without Cost," "How to Save Nearly ½ Your Household Expenses.
Crofts & Reed Co., Dept. 196, Chicago

PATENTS that PROTECT

Our 3 books for inventors mailed on receipt of 6 cts. stamps
R. S. & A. B. LACEY, Rooms 28-38 Pacific Bldg.
Established 1869. Washington, D. C.

PATENTS Watson E. Coleman, Patent Attorney, Washington, D. C. Advice free. Terms low. Highest ref.



294 Hidden Name, Friendship, Silk Fringe, Envelope and all other kinds of CARDS and Premium Articles. Sample Album of Finest Cards and Biggest Premium List, all for a 2 cent stamp. OHIO CARD COMPANY, CADIZ, OHIO

The **UNIVERSAL MAGAZINE** the most interesting. Send 25 cents for one year's subscription and 12 beautiful pictures. Address, **HALE PUBLISHING CO.,** 5550 Vista Avenue, St. Louis, Mo.

Review of the Farm Press

STANCHIONS NECESSARY

TIME on the farm is money, the same as in the factory. The farmer who is rearing half a dozen calves can't afford to be without stanchions. Stanchions are as necessary in feeding calves as is an improved stall in making the dairy cow comfortable. Every farmer knows what a stanchion is, and these can be built out of scrap lumber on a bad day at very little cost. If calves are fed in an open pen in summer time I would build a stanchion in the lot. I would also have a set built in the calf barn. Stanchions are not so expensive but what the farmer can afford two sets. At meal time each calf will have his head in the stanchion and the calf waiting to be fastened. The feeder closes the stanchion and the calf is secure. The feed is given the calf according to his requirements and the desires of the feeder. If the calf is a slow eater it is not molested by the greedy calf next to him. Stanchions on the dairy farm will expedite greatly and overcome many of the obstacles and disagreeable things in feeding calves.—Kansas Farmer.

◈

SHEEP MANAGEMENT

So many of my friends have asked me as to the management of my flock of sheep that I have concluded to outline it. The most important thing in managing a flock of sheep to have them improve in character is the selection of a good ram of undoubted breeding, showing in his make-up the true type you have in mind. Such a one is not too expensive at any price. He can generally be used for one or two years and sold for nearly his purchase price.

Such rams bred to thirty or forty ewes will in a few years build up and change the character of the flock in a way that will astonish you. The English farmers, rare good stockmen they are, have found this out, and will often pay from fifty to one hundred dollars for a ram to use on their mutton (not registered) flocks simply to improve their cross of lambs for mutton purposes. In the autumn, before admitting the ram to the ewes (or if you use a teaser, bring them in to him), the ewes should be put on flush pasture or good aftermath, and be brought in good condition. I generally give them a handful of oats each daily, or feed them some rape daily, which is cut and drawn to the pasture.

When the ewes are housed for the winter they have good clover hay or alfalfa, and roots, and are kept in good condition. After lambing in the spring we supplement their feed with bran and oats mixed, to which is added a little crushed oil cake, or, if that is not obtainable, oil meal. As soon as the lambs are dropped, say when ten days or two weeks old, their tails are cut and the ram lambs, except the best, which are reserved for breeding purposes, are castrated.

A small creep, made with hurdles, is fixed in the barn, and inside of this, which is fixed so the lambs can get in and the sheep cannot, is placed some ground oats mixed with bran and a little oil meal, to which they may at all times have access, my object being to keep them growing from the time they are born until they are yearlings. This, with some clover hay or alfalfa, will help them wonderfully.

For a flock of say one hundred breeding ewes we generally put in three acres of rape. This is sown as early as possible, in drills about eighteen inches apart, and is cultivated until it covers the ground. About the first of July we shear our lambs, as in the hot weather they thrive and grow better without their wool.

The lambs when weaned should be put on fresh ground—that is, pastures or aftermath which has not been used much for sheep that year. In fact, a great secret of success with sheep is a frequent change of pasture, and I should rather change to a poorer pasture for a while than make no change. The lambs then are let run in the daytime on the best pasture we have, and at night are hurdled on as much (no more) of the rape as they will clean up close to the ground. I need not say this ground on which lambs have been hurdled will raise magnificent crops without additional fertilizer.

During July and August I use some good worm powders to mix with the salt given the flock, and if any of my lambs show indications of worm in the head, or giddiness, I dose them with tonic. The same may be done if on too rank feed they are inclined to scour. I have found also, that for worms in the head, to shut them in a tight box stall, or other tight enclosure, and spray them generously with crel oil, is the best remedy I have thus far used.—Henry L. Wardwell in the American Cultivator.

◈

HOW WE IMPROVED AND BRED UP OUR CORN

We began by going to the field at gathering time and selecting stalks that had two ears. We cut off the stalks with our pocket knife below and above the ears, then took the ears in and hung them across a pole in our tool shed. I think a wire stretched up in the tool shed would have been better. We let the corn hang until it was thoroughly dry.

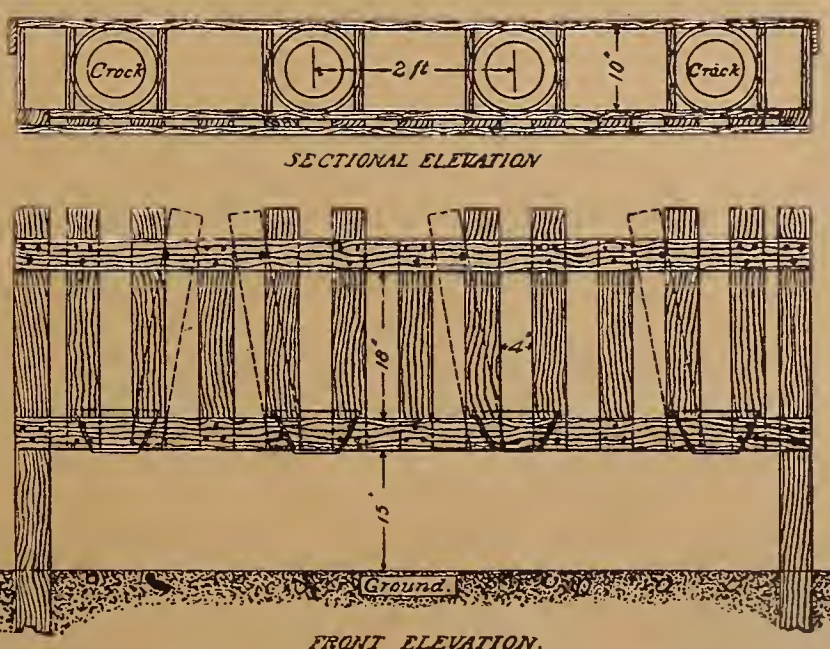
When we husked we threw the lower and upper ears on separate piles. We then selected the best ears out of the lower pile and the next year planted that corn in a patch by itself and had that for our seed patch.

A patch like this should be as far from any other corn as possible, as otherwise the pollen from other corn is likely to get onto the stalks of the seed corn. We have found that corn will mix when separated even by several hundred yards of space. How to keep the pollen of the other corn from the corn in our seed patch has been the most difficult problem to solve.

By following this plan for the past eight years we have developed a distinct variety of corn, which bears nearly always two and sometimes three ears to the stalk. We have increased our yield to the acre about one third since we commenced to improve our corn.

We feel that we have been fully repaid for the time we spent in the improving of our corn. Besides what we have gained ourselves, we have been furnishing the neighbors with seed, and it does us good to meet them and have them invite us to come and see the fine corn they have raised from our seed.

It will pay every farmer that raises corn to have a seed patch each year and watch that patch. When the corn begins to tassel, go over the patch and cut out all tassels on the barren and inferior stalks. They should be cut before any pollen forms. Some may say that this is too much trouble, but we are writing from actual experience and know whereof we speak.—L. A. Strupe in The Farmers' Review.



SECTIONAL ELEVATION

FRONT ELEVATION.

A TIME AND LABOR SAVING DEVICE FOR CALF FEEDERS

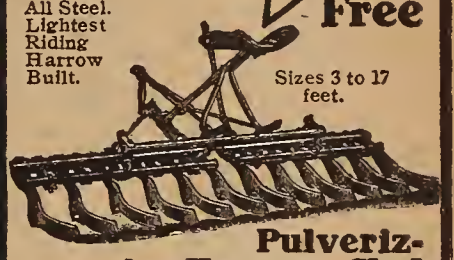
Bigger Crops

Save Time—Save Yourself and Horses Work—Save Repairs, Trouble, Money. These are the things you can do, as thousands of other farmers are doing, by using the guaranteed

"Acme" Try It Free

All Steel. Lightest Riding Harrow Built.

Sizes 3 to 17 feet.



Pulverizing Harrow, Clod Crusher and Leveler

TRY IT FREE

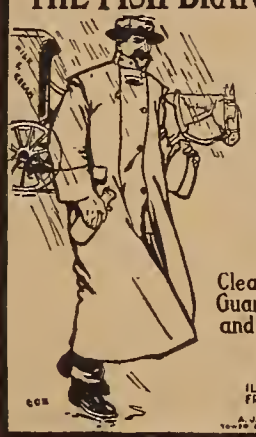
We want you to see what a fine, smooth seed bed it prepares, in all soils, under all conditions: How the knives *cut* through to the undersoil, chopping the buried sod or trash but never dragging it to the surface.

Our Free Book

contains valuable articles by high authorities on the preparation of seed beds. Also tells all about the "Acme." Send postal for it today.

Duane H. Nash, Inc.,
Box 56, Millington, N. J.

THE MAN WHO SWEARS BY THE FISH BRAND SLICKER



is the man who has tried to get the same service out of some other make

TOWER'S FISH BRAND

Clean-Light-Durable Guaranteed Waterproof and Sold Everywhere at $3.00

ILLUSTRATED CATALOG FREE FOR THE ASKING

A. J. TOWER CO. BOSTON, U. S. A.
TOWER CANADIAN CO. LIMITED, TORONTO, CAN.

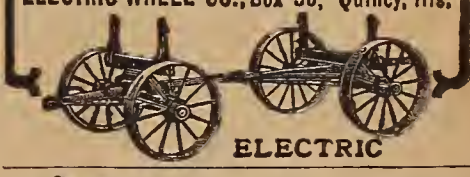
Let Us Send You Our Book.

about good wheels and good wagons that will save you a lot of work and make you a lot of money—the

ELECTRIC STEEL WHEELS
—and the—
ELECTRIC HANDY WAGON.

By every test, they are the best. More than one and a quarter millions sold. Spokes mitted to the hub. Can't work loose. A set of our wheels will make your old wagon new. Catalogue free.

ELECTRIC WHEEL CO., Box 96, Quincy, Ills.



ELECTRIC



The LOU DILLON TANDEM GARDEN CULTIVATOR

It can be set to **stir** the soil any depth desired and to **cultivate astride** the row or **between** the rows, one third quicker than any other garden cultivator. Easier to push than a lawn mower. No gardener can afford to be without one. Write for descriptive catalogue and testimonials. If your local dealer does not handle them write us for special introductory price.

The Schaible Mfg. Co.
Dept. E. Elyria, Ohio

HAY PRESSES

Guaranteed enough better than the best of other makes to earn 6 per cent interest as follows, or no sale.

The Alligator 6% Int. on $13687.50
" Favorite " " " $18000.00
" Hercules " " " $22812.50

Great Money Makers.
For conditions address
J. A. SPENCER,
DWIGHT, ILL.





MAKE YOUR **BICYCLE** INTO A **MOTORCYCLE**

at small cost by attaching the successful Erie outfit. This includes all parts to make a powerful up-to-date machine that climbs steep hills. Sample sold at cost to introduce it. Send 4 cents in stamps for attachment catalog 1, or finished motorcycle catalog 2.

Motorcycle Equipment Co., Hammondsport, N. Y.

ASK US HOW WE Give This Desk



and nearly 1200 other nice things for the home with orders for groceries—tea, coffee, extracts, perfumes, etc. Send for catalog telling "How the Housewife Can Furnish Her Home Without Cost." and "How to Save $10 Every Few Weeks." A postal brings it.

Crofts & Reed, Dept. 198 Chicago, Ill.

POTASH

in the fertilizer in generous quantities makes heavy yields of clean and sound vegetables and fruits.

Strong and lusty plants resist the attacks of insects and germ pests.

Plenty of Potash in the fertilizer assures the best crops.

Our Book, "Potash in Agriculture," is *free* to farmers. May we send it to you? Address

GERMAN KALI WORKS
93 Nassau Street, New York
Atlanta: 1224 Candler Building
Chicago: Monadnock Building

Billion Dollar Grass

The greatest grass of the century. Same grows everywhere and yields from 12 to 15 tons of hay, and lots of pasture besides per acre.



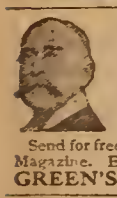
Clovers
Largest growers of Clovers, Alfalfa, Timothy & Grass Seed in America.

Salzer's Catalog
It's the most original seed book published, and is gladly mailed to intending purchasers free; or remit 10c and get lots of remarkable farm seed samples, worth a little farm to get a start with.

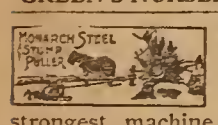
John A. Salzer Seed Co.
La Crosse, Wis.

Gregory's SEEDS

Make your planting a success by sowing good seed. Our flower and vegetable seeds are guaranteed fresh and pure, and are sold at reasonable prices. We supply farmers who plant by the hundred acres, down to collections for the kitchen garden.
We have a number of new varieties that every farmer needs. Our new potato, "Big Crop," produced this season on our own farms at the rate of 836 bushels per acre.
Our new catalogue is an invaluable guide for all growers. It's free.
J. J. H. GREGORY & SON, MARBLEHEAD, MASS.



PEACHES! We offer you 1 Elberta Peach Tree 1 Red Cross Currant Bush, 1 C. A. Green New White Grape Vine, and 2 Live-Forever Rose Bushes, all delivered to your house by mail for 25 cents, or two of these collections for 50 cents, or four of these collections for $1.00. (Capital $100,000.00)
Send for free Fruit Catalogue, and a copy of Green's Fruit Magazine. Established 30 years. Five Nursery Farms
GREEN'S NURSERY CO., Rochester, N. Y.



STEEL MONARCH
Pulls stump 7 feet diameter. The lightest and strongest machine made and guaranteed.
Catalogue and discounts address,
MONARCH GRUBBER CO., Lone Tree, Iowa.

REDUCED COLONIST RATES
One way tickets at special low rates on sale daily throughout March and April, from Chicago and other points, via the CHICAGO, UNION PACIFIC & NORTH-WESTERN LINE, to San Francisco, Los Angeles, Portland and Puget Sound points.
Daily and Personally conducted tours in tourist sleeping cars. Double berth only $7.00, through from Chicago. For full particulars write S. A. Hutchison, Manager, Tourist Dept., 212 Clark St., Chicago, Ill.

450,000 TREES
200 varieties. Also Grapes, Small Fruits etc. Best rooted stock. Genuine, cheap. 2 sample currants mailed for 10c. Desc. price list free. LEWIS ROESCH, Box F, Fredonia, N. Y.



The Best Strawberries
grow from Farmer's plants. Introducer of "Oswego" strawberry and "Plum Farmer" raspberry. Fruit plants, all kinds. Catalog free. L. J. Farmer, Box 815, Pulaski, N. Y.

PATENTS SECURED OR FEE RETURNED.
Free report as to patentability. Illustrated Guide Book, and List of Inventions Wanted, sent free.
EVANS WILKENS & CO., WASHINGTON, D. C.

CALIFORNIA Irrigated Fruit, Alfalfa Farms. Easy payments. Special offer. New Gov't aided canal. Catalog free. Wooster, 702 Market St., San Francisco.

AGRICULTURAL LIME
WILLIAM T. LEGGETT CO., Pittsburgh, Pa.

CHEAP LAND where invalids get well without medicine. Raise $200 in fruit per acre. Eden Fruit Colony Company, Dewberry, Hartnett Co., N. C.

Gardening

BY T. GREINER

CABBAGES AS A MONEY CROP

How to grow cabbages on a large scale, from five to fifty acres, is a problem on the solution of which a lady in Berlin, Pennsylvania, wishes information. She has a piece of land that produces one and one half tons of timothy hay to the acre, and the question is whether this is good enough to raise a crop of cabbages.

In this county, of western New York, late cabbages are an important money crop, and they are grown by the hundreds of acres, usually with fairly good profit. Most of the land on which they are grown is of a rather sandy character; but good crops may be, and are, grown on heavier and stronger soils, also on muck lands. But you cannot produce a large or paying crop of cabbages, either early or late, except on land that is well provided with available plant foods, especially potash, of which the crop needs a large supply, and also nitrogen.

Whether the land that produces one and one half tons of timothy hay to the acre is rich enough to bring eight, ten or more tons of cabbages to the acre, as it should, I cannot say. But this land can be *made* rich enough by applying a heavy coat of stable manure, or a proportionate amount of fertilizers, say four hundred to six hundred pounds of muriate of potash, and several hundred pounds of nitrate of soda and of superphosphate, or these plant foods in similar forms.

The best preparation of the land for growing a crop of cabbages, however, is putting it in clover, making a large hay crop by means of applying potash and superphosphate (good wood ashes being especially good), then plowing the sod in fall or spring, thoroughly working it, and planting the cabbages.

Danish Ballhead is the great market cabbage. It is very late. Seed should be sown in early spring, therefore, at least in this northern location, and the plants set in open ground late in May or early in June.

The planting on a large scale is usually done with a two-horse transplanter, which sets the plants and applies water and fertilizer all in one operation. A number of acres, up to ten, may be planted in one day with one of these machines. In late fall the cabbages are gathered and put into storage houses built for this very purpose, and then shipped in carload lots as the market calls for them. The price has been as low as six or eight dollars a ton, and as high as forty dollars.

Worms, which are so destructive at times to cabbages in home gardens, where there are but few cabbages and many cabbage butterflies, do comparatively little damage in the big cabbage fields, and hardly ever need any particular attention.

◈

SPRAYING NUTMEG MELONS FOR BLIGHT

An Ohio reader wants to know at what age nutmeg-melon plants must be sprayed with Bordeaux mixture to protect them from the blight. He has been losing his few plants in the home garden for the last three years.

I am by no means positive that even the most thorough spraying is an absolute protection from melon blight. Some forms of "blight" may attack the plants, usually in the later stages of growth, and during hot and dry weather, whether we spray or not. But I find that when I spray with Bordeaux mixture, made either with lime or soda, quite early in the season—in fact, soon after the plants are up—and especially if strong doses of arsenate of lead are added to the mixture so as to ensure freedom from bug injury, and if this treatment is repeated right along, from time to time, until the fruit is well along, I lose fewer plants than where spraying is omitted. Potato plants are treated much on the same plan and on the same principle. Much also depends on the season.

Our friend says he has but little trouble from "bugs" on melons, as a little saltpeter dissolved in water soon destroys them. I would rather put my faith in arsenate of lead. It is sure, and safer.

◈

CELERY PLANTS

The plants needed by the home grower for raising his early celery, and late celery, too, are easily started in a box or boxes set in a sunny window or in a room otherwise suitable for starting onion plants, and in early spring may be transferred to a row in the garden, selecting the richest spot for them.

If you like celery, and a full supply of the best that can be raised, get a package of Golden Self-Blanching, and for late, one of Winter Queen or Giant Pascal, and sow a flat of each, scattering the seed thinly in shallow marks across the flat, the marks to be about an inch apart, then cover lightly with fine sandy loam, and firm by pressing a piece of board upon the surface of the soil. When the plants are well up, set the box or boxes in a cold frame until the garden is ready to receive them. Then cut them out, in little sections of row, and set these bunches of plants into the V-shaped opening made for them in a nursery row, as I have often described. Try it, anyway.

To have really good celery in full supply on the table is worth all the pains required in starting the plants in this way and in growing it. It is one of the best things we have in the garden.

◈

CELERY BLIGHT

A California reader complains that his celery last fall was badly affected with blight. It was the first time that the disease ever gave him trouble. I think it likely that our friend may have a chance to see more of this blight after this. We have it here in some—in fact, in most—seasons. Occasionally we have a season in which we see nothing of it. Thus it was in 1907.

If the atmospheric conditions happen to be very favorable for the development and spread of celery blight, it is a hard proposition to keep our plants free from it. In the fore part of the season, and while the plants are in good growing condition, we can do it in a measure by spraying them freely with Bordeaux mixture, or even with a simple weak solution of copper sulphate. Hot and dry weather favors the blight. Cool weather and plenty of rain, or in its absence, irrigation, favor the healthy growth of the plants.

◈

WHY NOT KOHLRABI?

A Maryland reader tells of having kohlrabi served like cauliflower, and finds that it closely resembles that vegetable in flavor. It might have been difficult to tell the difference by the taste alone. He also finds young kohlrabi much more palatable than that which is older.

Comparatively few home growers plant kohlrabi. But why don't they? It is one of the easiest vegetables to grow. Buy a five-cent paper of seed, and sow it (or part of it, the other part later) in a row in the garden rather thinly, as the seed is small, but of easy germination. This vegetable is quite hardy, and may be started as early in spring as you start any vegetable.

The plants when first coming up are small, and sometimes subject to flea-beetle attacks. Tobacco dust, wood ashes, in fact almost anything of a dusty nature, sifted over the row will protect the plants. Thin them to stand an inch or two apart, and when the stem above the ground has thickened, and the bulbs begin to crowd, thin out the largest ones for use, and see how delicious they are.

They are peeled, sliced, boiled in milk, then seasoned, and served somewhat like cauliflower, cabbage or turnip. The flavor reminds one of all three of these vegetables, but is milder, more refined and altogether enjoyable. When old, of course the bulbs grow tough; therefore "the good die young."

◈

MELON ENEMIES

An Illinois reader asks how best to fight enemies of the muskmelon, especially the striped cucumber beetle, which usually comes in swarms; also an insect "which stings the vines when fruit is set, and causes them to die," and a "tiny white worm which burrows in the stems and roots with fatal effect."

Spraying often and thoroughly with Bordeaux mixture to which arsenate of lime has been added (one pound of the paste to ten or fifteen gallons of Bordeaux) has in my experience never failed to protect the plants from the attacks of the striped beetle. The larva of this insect is often found boring into the stem or root of the plants and doing considerable damage. If the beetles are kept off, their larvæ will not become troublesome.

Scavengers in the form of minute worms, so small as hardly to be seen with the naked eye, often are found on diseased plants, feeding on decaying portions, but are not to be considered as the primary cause of the trouble. The free use of tobacco dust around melon and similar plants is always a good thing.

GROWING CURRANTS FOR MARKET

Mr. W. W. Farnsworth, of Ohio, in his talk on small fruits given at the last meeting of the Western Horticultural Society, at Rochester, New York, also spoke of the profitableness of currants.

"The plants need rich, heavy soil, clay loam preferred," he says, "and plenty of stable manure."

He makes the rows eight feet apart, and sets the plants three and one half feet apart in the rows. Sometimes he grows them in a young orchard. They rather enjoy the shade. In pruning, in the late fall or early spring, he leaves only about half a dozen branches. Early cultivation is essential. In August he sows a cover crop in the middle of the rows, either cow peas, or soy beans, or turnips. In marketing, he follows the golden rule, and tries to make every transaction so pleasant for the other fellow that he will continue to remain his customer.

I do not know what varieties Mr. Farnsworth grows. I know that my customers want red ones, and that there is little call for white ones. Cherry and Fay are good—but there are others. I have the Wilder, and find it very satisfactory.

On my grounds the branches seem to be inclined to spread over on the ground, and I have to stake and tie each bush if I want to hold them up and together. But on the whole I believe in currants, both in growing them and in eating them.

◈

THE WHITE WELCH ONION

Sometimes when we set out to "boom" a thing, this may become a boomerang. A reader in Owen Sound, Ontario, Canada, asks me for particulars about growing the white bunch onion which gives returns at the rate of one thousand dollars on one sixth of an acre.

I once stated that a few rows in the garden where this vegetable stood in an unbroken matted row had given me returns equaling the *rate* of one thousand dollars on one sixth of an acre. I have ever since been sorry for having indulged in that kind of figuring, for when I undertook to grow larger patches of it, the returns did not come "within gunshot" of what I had figured out from a row fifty or one hundred feet long.

Yet the Welch onion is well worth growing. It is hardy and has never failed to winter perfectly in this climate, giving early green onions that are far better, sweeter and tenderer than the ordinary "winter" or Egyptian onion, and great quantities from a little patch of good land.

Sow seed in open ground in spring or early summer, using seed far more freely than you would when sowing ordinary onions for fall bulbs. I have used as high as one pound to one twentieth of an acre, but now think one pound is ample for one tenth to one fifteenth of an acre. Make the rows a foot apart. Keep free from weeds all summer. Mulching in fall is a good practise, but not absolutely necessary. When sufficient new growth has been made in spring (April or May), pull the plants or clusters, clean, and bunch in small bunches.

◈

CELERY PROFITABLE

From A. T. G., a reader near our National capital, I have the following report:

"I agree with you that 1907 was a banner year for celery, both as regards production and prices. I had only about five thousand plants on one tenth of an acre, and if the second half sells as well as the first, I will get four hundred dollars for the patch. I have gone back to the truck method, having little land suitable for celery, and am not sure but what it is the cheapest in the end. I cannot afford to give my produce away, so retail what I grow, and have gotten from seven to fifteen cents a stalk, while Western celery retails at five cents. This celery is better bleached than mine, but is stringy. One can buy it by the crate of twelve dozen stalks for two dollars and eighty-eight cents, or at two cents a stalk. This would seem to be no more than one cent a stalk at the Western beds. Where can they find a profit at this figure? Do they practise truck or row culture? How about your own method?"

The plan generally practised in growing celery for market, both East and West, is growing in rows, usually single rows, sometimes double rows, and blanching by earthing up, or in some cases by boards. Planting celery in solid beds, six inches apart each way (new celery culture, so called, about which another reader inquires) is not generally practicable.

I now plant mostly in single rows. The trench method has gone almost entirely out of fashion. Close planting (in solid beds) requires very rich soil and a free supply of water for irrigation, but even under most favorable conditions will not give a high-quality product.

◈

The width of a standard permanent road bed in France is a trifle less than sixteen and one half feet.

Fruit Growing

BY SAMUEL B. GREEN

TRIMMING FRUIT TREES

Fruit trees vary much in the amount of pruning which they need, some classes requiring a great deal and others requiring only a very small amount, while some varieties of the same class require more pruning than others. In the case of the apple, after the tree is properly headed (which should generally be done within a year or two after it is planted) there is comparatively little pruning needed, and that should consist of the taking out of the interlocking branches and water sprouts and the shortening of any awkward branches that may have a tendency to form a one-sided tree.

In the case of pears the same rule for pruning should be followed as in the pruning of the apple. In addition, however, the strong shoots which frequently develop in the center of the pear while the tree is young should be cut back from one third to one half their length, so as to prevent the tree from running up too tall. In the case of spreading varieties, like that of the Winter Nelis, some little pruning will be needed each year on the side branches while it is young, to keep them off the ground.

In the case of the plum, little is needed more than for the apple. There is, however, an occasional tendency, especially with our native plums, to set too many fruit buds and overbear. On this account, and if the trees get into this condition and make but little growth of wood each season, severe pruning should be resorted to in order to force a new growth of wood.

In the case of peaches the same points should be borne in mind as in pruning the apple, but in addition, after the tree has been set two years and the head well formed, it should be severely pruned each year, and this should consist of cutting off from one fourth to one half of the new growth each year. This will have a tendency to preserve the tree in good form and to thin out the fruit buds, which generally set too full.

◈

THE BETA GRAPE AND DUNLAP STRAWBERRY

M. H., Christine, North Dakota—I am pleased to know that the Beta grape is doing well in your section. I have great faith in this variety, and believe it is well adapted for ordinary purposes for a large section of the cold Northwest, by reason of its good quality and great hardiness.

Where this grape is properly cared for the bunches are surprisingly handsome, and while the fruit is often quite acid when it first colors up, if it is allowed to hang on the vine until thoroughly ripened it is of fair quality. It is not recommended for best grape locations, but for sections where grapes are uncertain.

I do not think you need to hesitate about buying the Dunlap strawberry in Michigan for use in Dakota. It is a variety of reasonable hardiness and very productive. In your section, however, it should be protected in winter with at least six inches of good straw or hay. I do not think strawberries need to be acclimatized, but there is little change in this respect in one generation.

You can probably buy this strawberry from any of the Minnesota or Dakota nurseries, and I would suggest that in this way you would probably save considerable of your express charges, and very likely the plants would arrive in better condition than from Michigan.

◈

WHAT SHALL I PLANT?

M. J. G., Mankato, Minnesota—In regard to tree lilacs, I have some of the S. Japonica that have been grown from seed, and they produce fine, large, cream-colored panicles of flowers in the latter part of June, a full month after the common lilacs are gone. I did not know that there were any named varieties. The lilac grafts nicely on the white ash and also on the privet, but I prefer the latter for this purpose. This form is perfectly hardy in Minnesota, where it makes a clean tree eighteen or twenty feet high. It flowers regularly when it once commences, but is often tardy in getting started.

In regard to Schwedler and Reittenbach maples, these, as you know, are forms of the Norway maple, and are commonly grafted on that stock. I have had considerable experience with them, but have not found either of them to be thrifty growers. This is especially true of the Western states, where they are not nearly so fast growers as in some of the Eastern states. However, they are well worth growing in a small way. I have tried them many times on soft maple, but think I never succeeded in making them grow on that stock.

I think the Kentucky coffee tree seed will be perfectly safe frozen outside in the winter. However, I do not regard such as being so good treatment as scalding, which has given us very good results. The trouble we have found with this seed when simply frozen has been that it starts very irregularly, and quite a lot of it will fail to come until the second year.

I feel quite sure that seed of the Whitney and other hybrid crabs is far better for stocks for the severe climatic conditions in Minnesota than seedlings grown from Vermont seed.

In regard to New York Russet, while it may be doing well in a few localities in the Northwest, yet I have no faith in its holding on well. I hope you will not encourage the planting of it there.

I think the Norway spruce and Scotch pine seed from Norway is probably safe for your section, although it would be better to have seed stock from a drier climate to plant in Minnesota.

In regard to the South Dakota strawberry, while it may be of some value in South Dakota, I cannot see much value in it for good fruit sections. Its chief value is its great hardiness and vigor. It is a tremendous plant maker, and I think will stand almost anything in the way of climate.

◈

PRUNING APPLE TREES

Mrs. W. E. B., Retro, Tennessee—On the whole, I think that more apple trees have been injured than helped by pruning. This does not mean, however, that I am absolutely opposed to such practise. It is certainly desirable to remove any sprouts that may appear in the center of the trees and about the trunk and main branches. Some varieties are quite liable to have these in considerable quantities.

A good time to take them off is while the tree is dormant in late autumn or during mild days in the spring before the sap starts. If the sprouts are rather small in size, so that they can be pulled off or broken down with a stick, there is less trouble about their sprouting again than if they were cut off, leaving a little shoulder close to the tree, which has dormant buds that are often troublesome about starting into growth.

Heavy pruning of the trees may be done at the time indicated, but this should be avoided and is never necessary in the case of trees that have been properly cared for. Light pruning of the trees may be done to best advantage in June while the trees are in full leaf. Wounds made at this season of the year heal very quickly.

◈

TREATMENT FOR OYSTER-SHELL BARK LOUSE

E. H., Pittsburg, Pennsylvania—The best treatment for oyster-shell bark louse is to spray or paint the bark with strong potash lye. A heavy coat of whitewash applied to every part of the tree when dormant will have the effect of removing the scales when it peels off in the spring. Of course, the potash can safely be applied only when the trees are dormant.

What is known as soluble oils are sometimes used for this insect with good results, and in a small way it may sometimes be perfectly safe to use clear kerosene, but if it is used at all, it must be only in sufficient quantity to barely moisten the scales.

I have sometimes used kerosene with a brush just dampened with it, and found it extremely effective. The complaints of injury from its use have come, I think, where large quantities have been used, and especially when used on cloudy days, when the oil evaporated slowly. I think if used in small quantity and only on bright days that there is little danger from the use of kerosene. For the small gardener and the man with only a city lot to care for it is convenient to know about this remedy.

◈

BERMUDA GRASS AND WALNUTS IN NEW MEXICO

C. V. B., Delphos, New Mexico—You can probably obtain seed of Bermuda grass from any of the large seed dealers. Pecans will do well in your section on deep, alluvial soil, and the black and white walnut will probably be found adapted to high altitudes where a deep, porous soil is found, but they will not be very successful.

The English walnut, so called in commerce, is a tree that will probably do well in many parts of New Mexico.

FERTILIZER FOR GRAPES

A. J., Chester, Pennsylvania—On most clay soils grapes need but little fertilizing. It is not desirable to manure grapes if they are making a satisfactory growth, since strong growth of wood is not conducive to fruitfulness or to hardiness of vine.

If vines are not making a satisfactory growth, the best fertilizer is an application of about six cords to the acre of stable manure. If this cannot be obtained, a good commercial fertilizer is four hundred pounds of fine ground bone and two hundred pounds of kainite applied to each acre. Apply fertilizer in the spring and harrow in at once.

I do not know what you refer to when you ask about the insect that makes grapes full of worms or worm holes, and will have to ask you to send me a sample of the injury done.

◈

SELECTING FRUIT TREES

W. C. L., Brooklyn, New York—In my opinion trees from a Northern nursery would not necessarily be any better than those from some nursery in your near vicinity, and if both were well grown I see no reason why, in case you can get what you want, you should not take those from the nursery near by. I do not think trees from a Northern nursery would resist adverse climatic conditions any better than those from your near vicinity, provided that all were healthy when obtained.

If the land is in good condition I should certainly aim to plant it out with trees this spring. Of course, in selecting trees it is very important to get those varieties that are well adapted to your section, and I take it that you have good advice in regard to this matter.

◈

WILLOW-TREE SPROUTINGS

I. D., Lorain, Ohio—Of course there is some chance of the roots of willow trees sprouting if the trees are grubbed out, but such roots are not very troublesome, and if the sprouts are cut off until mid-summer, no serious result will appear in the way of sprouts that will injure your lawn.



CONGO
NEVER LEAK ROOFING

Sample Free

WHY CONTINUE to patch when a few rolls of Congo "Never-Leak" Roofing will put an end to all of that expense at very little cost over what you are paying for repairs?

You can lay it right over your old roof, it is so soft and pliable.

In these days of progress, articles which save *Time, Labor* and *Money* are what the busy man is looking for. And in Congo Roofing the three are most satisfactorily combined.

Congo will not leak or rot. It is pliable, non-shrinkable, unaffected by climatic changes, winds or water.

It is easy to lay, durable, and will give the most service at the least money.

Free Sample sent on request. Write today.

UNITED ROOFING & MFG. CO.

Successors to Buchanan Foster Co.

553 West End Trust Bldg., Philadelphia, Pa. Chicago & San Francisco

SPECIAL 60-DAY OFFER TO INTRODUCE OUR LATEST LARGE, POWERFUL ACHROMATIC TELESCOPE, WITH SOLAR EYE-PIECE



See the Spots on the Sun. NEEDED ON FARM, SEA OR RANCH. BY MAIL INSURED, $1.20

POSITIVELY such a good telescope was never sold for this price before. These Telescopes are made by one of the largest manufacturers of Europe, measure closed 12 inches and open over 3½ feet in 5 sections. They are BRASS BOUND, BRASS SAFETY CAP on each end to exclude dust, etc., with POWERFUL LENSES, scientifically ground and adjusted. GUARANTEED BY THE MAKER. Heretofore Telescopes of this size have been sold from $5.00 to $8.00. Every sojourner in the country or at seaside resorts should certainly secure one of these instruments; and no farmer should be without one. OBJECTS MILES AWAY are brought to view with astonishing clearness. Sent by express for $1 safely packed; if by mail insured, $1.20. Our new catalogue of Watches, etc., sent with each order. This is a grand offer and you should not miss it. WE WARRANT each Telescope JUST AS REPRESENTED or money refunded. WHAT A TOURIST SAYS: NEW YORK, Nov. 4, 1905. Messrs. Kirtland Bros. & Co. GENTLEMEN: I had with me on my recent European trip one of your Excelsior Solar Telescopes, with which I had the pleasure of observing an Eclipse of the Sun. At the Austrian Tyrol it was almost 80 per cent concealed. Your Solar eye-piece is a great thing. Its value to me on this occasion was many times greater than the entire outlay for the Telescope. Yours truly, L. S. HENRY.

KIRTLAND BROS. & CO., DEPT. F.F. 90 CHAMBERS STREET, NEW YORK.


FOR MAN-POWER

HURST POTATO SPRAYERS ON FREE TRIAL

NO MONEY IN ADVANCE -- Spray first, then pay us out of the extra profit. Sprays Everything—potatoes and truck 4 and 6 rows at a time. Man-power and Horee-power. High preesure and perfect agitation. Vapor spray stope Blight, Scab, Rot, and Bugs. Brass valvee, plunger, strainer, etc. Guaranteed 5 Years.


FOR HORSE-POWER

Wholesale prices (where no agt.) We pay freight. Write for our free Spraying Guide, Catalog, and Free Sprayer offer. H. L. HURST MFG. CO., 70 North St., Canton, Ohio.

FRUIT TREES AS CHEAP AS $5 PER 100 Guaranteed true to name. FREIGHT PAID. Apple, Pear, Plum, Cherry, Peach and Carolina Poplars, healthy and fumigated. All trees, plants at low wholesale prices. We beat other reliable Nurseries in quality and prices. Catalog free. RELIANCE NURSERY, Box T, GENEVA, NEW YORK.


YOUR BOY CAN DO AS MUCH WORK AS A MAN if he has a KRAUS PIVOT-AXLE SULKY CULTIVATOR

He simply steers it—the machine does all the work. A slight pressure of the foot moves the wheels and shovels simultaneously to the right or left at the will of the driver, while the width between gangs and depth of shovels are instantly and easily adjusted while machine is in motion.

Hillsides, Uneven Land and Crooked Rows as Easily Cultivated as Level Ground.

Simple in construction—nothing to get out of order. Made entirely of steel and malleable iron—every part interchangeable. Built for wear and work. Light draft high wheels and perfect balance.

There is just one Kraus—if your dealer does not have it accept no other—but write us. Send today for free catalog.

AKRON CULTIVATOR CO., DEPT. 18, AKRON, OHIO

KRAUS PIVOT AXLE SULKY CULTIVATOR TRADE MARK

Nitrate of Soda

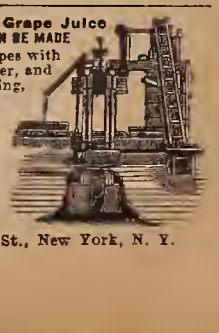
NITRATE SOLD IN ORIGINAL BAGS

The Nitrate Agencies Company

64 Stone Street, New York

Orders for All Quantities Promptly Filled—Write for Quotations

MORE GOOD CIDER or Grape Juice CAN BE MADE from a given amount of apples or grapes with one of our presses than with any other, and the juice will be purer, better-keeping, and bring higher prices.



HYDRAULIC POWER PRESSES are money-makers. Various sizes. 25 to 400 barrels per day. Also Steam Evaporators, Apple Butter Cookers, etc. Catalog FREE.

THE HYDRAULIC PRESS MFG. CO. Dept. 6 Mt. Gilead, Ohio. or Room 124D, 39 Cortland St., New York, N. Y.

Cheerful Chickens



Nature intended the hen to make her own living, hence she cannot possibly be healthful, happy and prolific *in confinement* unless bodily functions operate in nature's own way.

Therefore "Cheerful Chickens" and a full egg basket are possible only when the hen is taken back to nature by a common-sense method of feeding.

DR. HESS Poultry PAN-A-CE-A

gets at the bottom of the poultryman's troubles by creating and maintaining an absolutely healthful condition of fowls in confinement. It contains the bitter tonics to aid digestion, iron to make good blood and nitrates to expel poisonous matter.

It is the prescription of Dr. Hess (M.D., D.V.S.) and by aiding the hen to assimilate the food, it makes abundance of eggs. Poultry Pan-a-ce-a possesses a germicidal principle which makes it specially useful in preventing disease. Endorsed by leading poultry associations and *sold on a written guarantee.* Costs a penny a day for 30 hens.

1½ lbs. 25c, mail or express, 40c
5 lbs. 60c;
12 lbs. $1.25
25 lb. pail, $2.50
} Except in Canada and extreme West and South.

Send 2c postage for Dr. Hess 48-page Poultry Book, free.

DR. HESS & CLARK, Ashland, Ohio
Instant Louse Killer Kills Lice.



You'll Start Raising Chickens When You Get My Price

Let me quote you my 1908 low price for a Chatham which will start you making extra chicken profits when you read my valuable new free book.

Chatham Free 1908 Book

Gives you the benefit of my 50 years' successful experience FREE—write nearest office for it today.

The Manson Campbell Co.,
122 Wesson Av, Detroit, Mich.
1308 W. 11th St, Kans. City, Mo.
82 E. 3rd St., St. Paul, Minn.
Dept. 24, Portland, Ore.



84 Days' Free Trial, Freight Prepaid

MODEL MONEY MAKERS



Poultry is a profitable crop on the farms where Model Incubators and Brooders are used. If you are not making big money on your chickens, write for my book. It tells how.

MODEL INCUBATOR CO.,
Chas. A. Cyphers, Pres.
341 Henry St., Buffalo, N. Y.

Sure Hatch Incubator



Shipped you on Unlimited Trial direct from our nearest warehouse. Guaranteed Five Years. Over 140,000 people are making money with this splendid sure hatcher. "Get in line." Write today for Free Book telling all about the famous Sure Hatch and How to Make Poultry Pay. Send no money—just a postal.

Address SURE HATCH INCUBATOR CO.
Box 66, Fremont, Neb., or Dept. 66, Indianapolis, Ind.

SAW MILLS

All sizes. Most work with least power and smallest crews. All latest improvements. Also Edgers, Trimmers, Planers, Shingle and Lath Mills, Cut-off and Rip Saws, Feed Mills, etc. Send for fine free catalogue.

American Saw Mill Mach'y Co.,
130 Hope Street, Hackettstown, N. J.
602 Engineering Bldg., New York City.

51 CHICKS FROM 50 EGGS



AT LEAST FOUR TIMES From Our $5.00 BUCKEYE. Backed by 17 years successful experience. BIG FREE BOOK explains how to start, gives prices and describes all necessary supplies. 40 Days Free Trial. With 50 Chick Brooder, Freight paid East of Rockies $9.00.

BUCKEYE INCUBATOR CO., Box 28, Springfield, O.

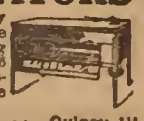
Big Money in Poultry



Our big Poultry book tells how to make it. How to breed, feed and market for best results. 100 illustrations. Describes largest pure bred poultry farm in the world. Tells how to start small and grow big. All about our 30 leading varieties. Quotes lowest prices on fowls, eggs, incubators and brooders. Mailed for 4 cts.

F. FOY, Box 10, Des Moines, Iowa

RELIABLE INCUBATORS



Made on the right principle. That's why they hatch the right kind of chicks, in the greatest numbers. Send for our new big Free Poultry Book—the result of over 25 years' rich experience in the poultry business. Intensely interesting—instructive—profit producing.

Reliable Incubator & Brooder Co., Box 41, Quincy, Ill



All Leading Varieties of Strictly Pure Bred CHICKENS, DUCKS, GEESE, TURKEYS, EGGS, and FREE TRIAL INCUBATORS at right prices. DON'T BUY till you see what we offer. A. 1. References. Send 2 cents for illustrated catalogue. CHANTICLEER POULTRY FARM, Dept. 56. MANKATO, MINN.

THE HIGHEST STANDARD of Perfection in Silver Laced Wyandottes. Eggs guaranteed. $1.00 per sitting of 15. WARREN K. CLOUSER, New Bloomfield, Pa.

64 VARIETIES Poultry, Pigeons, Hares. 20 eggs $1.00. Catalog and show record free. H. D. ROTH, Box 2, Franconia, Pa.

Poultry Raising

HINTS FOR GROWING CHICKENS

After chickens are hatched, do not feed them for twenty-four hours at least. The yolk of the egg in the chicken's abdomen supplies nourishment for this length of time. To force the chicken to eat may mean serious bowel trouble. Give plenty of fresh water.

The first feeds should be given at short intervals—every two hours—with fresh water. Millet is a fine feed for young chickens. At first scatter it on a newspaper, so they will have no trouble in finding it. In a few days it can be scattered in clover chaff, and the chicks will enjoy scratching for it. Give millet until the chickens are large enough to eat wheat. Thrashing screenings, such as weed seed, cheat and small cracked grains of wheat, will be desirable food for them. Feed this along with the millet. Never feed sloppy foods.

Keep plenty of dry, coarse sand in the scratching or exercising pen. You need not scatter the sand. The little fellows will do that when taking their sand baths.

Instead of beef scraps curded milk may be fed. Scald the milk, and the curd and whey will separate. Drain it by hanging up in a muslin sack, and when it is sufficiently dry crumble it to the chicks.

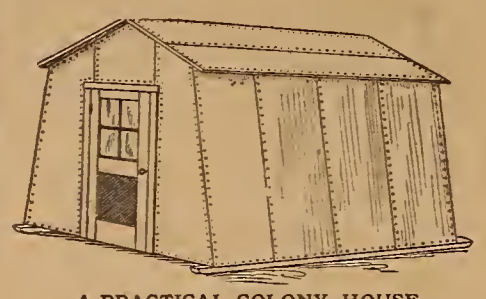
Above all, don't turn the young chickens out in the early morning dews. They will bedrabble themselves and take the gapes or some bowel disease. Have good shelters for them on rainy days, and make the coops rat proof. Be careful also to see that the coops are spacious.

W. D. Neale.

COLONY HOUSE

The accompanying sketch is of a colony house for poultry that I think is an improvement on the "New Hampshire" style, illustrated in the January 10th issue of Farm and Fireside.

It is seven by nine feet, and five feet nine inches to the eaves. The width at the eaves is four feet, making plenty of room for the owner to work inside without stooping. In the south end I have a door three by five and one half feet, the top panel consisting of four panes of glass ten by twelve inches; the lower panel is covered with screen wire or canvas.



A PRACTICAL COLONY HOUSE

If made of matched boards the house will take about three hundred feet of twelve-foot lumber, not including floor.

J. H. Jensen.

A FEW POINTS ON TURKEY RAISING

In breeding turkeys we are generally able to get enough weakly poults without breeding for them, so the importance of having strong, vigorous birds to breed from must not be overlooked. In selecting breeding stock, avoid extremes in size. Large, overgrown females are generally inactive and unprolific, and the few eggs that they lay are apt to be ill shaped and unfertile, and many of them soft shelled. Select females having good, bright red wattles and head, a clear, sharp eye (this denotes good health), and those having good bone and long, deep bodies.

The Bronze turkeys are probably the most popular breed, with the Narragansett second. When we come to market I find there is quite a demand for a smaller bird than the Bronze, and a great many more people would buy turkeys if they could get those weighing about one half or two thirds the usual size. The White Holland fills the bill very nicely.

As the breeding and hatching season approaches, preparations should be made in the way of fixing nests for them in fence corners, under hedges and other out-of-the-way and secluded places. Use old barrels for this purpose. This has a tendency to get them to lay and sit near the house. Gather the eggs daily and keep them carefully until time to set them.

Turkey hens are faithful hatchers, but as a rule I find their time too valuable during the laying season to sit on eggs; therefore I prefer to use chicken hens mostly, but brood with turkey hens. I have, however, found some very successful growers who used chicken hens both for hatching and brooding.

Two seasons ago I visited some parties who used chicken hens altogether. They selected their largest hens for setting, and after the poults hatched they were kept on a board floor for about two days, then removed some distance from the house onto high, dry ground, and placed in coops with dirt floors. Here they were kept and fed, four or five times a day, at first moistened bread, boiled eggs and clabbered cheese, then cracked corn or millet seed mixed in. I saw these poults at the end of several weeks of very wet weather, and they were apparently as healthy and thrifty as could be expected under the most favorable conditions. They were allowed their liberty at all times during the day, rain or shine. These results were contrary to my experience in turkey raising, nevertheless they proved to be good in this case.

I believe that one great point in successful turkey growing is in keeping the young free from insects. This can be done only by constant vigilance. Dust the setters every two or three days with insect powder, have the nests and material clean, and sprinkle these frequently and thoroughly with a good louse exterminator. I doubt if there is any kind of young poultry more sensitive to the effect of vermin than young turkeys.

V. M. Couch.

CHICKEN FEED

Give chickens feed small enough to fit their little throats. Sometimes we see folks throw out corn and grain that only the old hens can eat. Stop and think that small chicks have small throats.

One, or possibly two, rations of wet feed are enough for a single day. For the other feedings give fine dry feed. But have plenty of water where the chicks can get it.

Three times a day is not enough to feed small chicks. Very often we think so, and then we wonder why they cry so. Five times are none too many. Morning, ten o'clock, noon, three o'clock and finally at bedtime.

Often we go down and drop a little feed in front of the chicken coop and go away, forgetting that just the minute we are gone the old hens will be on hand to rob the chicks. Shut these robber hens out. Small houses with enclosed yards, top and sides, are best for young birds.

If you see signs of bowel trouble you may be sure that you have neglected to give charcoal. Have some where the chicks can pick at it whenever they want to.

The smallest chicks need some water. Do not think they are so little they can get along without it.

Count the chicks every time you go to feed them.

Don't forget to feed the old hen meals suited to her needs. Something more substantial than what is given the chicks is needed every day.

E. L. V.

POULTRY POINTS

Sell off the roosters now.

Don't forget that chickens all need pure, fresh water where they can get it all the time.

Share the skim milk with the hens. They will make as good use of it as any creature on the farm.

Count the chickens every night. Sometimes they will wander a bit too far away, and need to be hunted up.

Coarse food is out of place for the little chicks. Make their rations all as fine as you can. Their throats are small.

Do you keep an egg record? Begin now, if you never have done so before. Set down the number you get every day.

Dogs that chase hens ought to be shut away from them. They will worry the hens and keep them from laying, as they otherwise would.

Roup is of the nature of diphtheria. If you have a chicken sick with that disease, get it out of the flock as quickly as you can, or a lot more will have it.

Don't let the chicks run in the tall grass until after haying. It hurts to have some of them get their heads cut off—hurts the chicks and hurts you if you have a kind heart in your bosom.

Remember that the mother hen that is shut up in a coop is a prisoner, and give her the best care you can, so that when her season of caring for the little fellows is over she will be in condition to begin work right away. Sometimes they will begin to lay before they are released. That shows that they have been well cared for.

E. L. Vincent.

$29.75 FOR THIS NEW LOW DOWN AMERICAN CREAM SEPARATOR



WAIST HIGH

Guaranteed to skim closer than any separator in the world. Sold direct from the factory. We are the oldest exclusive manufacturers of hand separators in America. You save all agents', dealers' and even mail order house profits. We have the most liberal 30 DAYS' TRIAL, freight prepaid offer. Write for it today. Our new low down, waist high separator is the finest, highest quality machine on the market; no other separator compares with it in close skimming, ease of cleaning, easy running, simplicity, strength or quality. Our own (the manufacturer's) long term gusrantee protects you on every AMERICAN machine. Don't buy a separator from any agent, dealer, or mail order house; don't make any contract or agreement; don't accept any machine finally until you run a few gallons of milk throughour new comfortable waist high AMERICAN. Use it everyday for a month and see how it outclasses every other machine. We can ship immediately. Let us send you our new Cream Separator Offer. It's different from any other, just as our new waist high AMERICAN is miles in advance, years ahead of any other separator in the world. Write for our great offer and handsome free catalogue on our new waist high model. Address,

AMERICAN SEPARATOR CO.
Box 1058, Bainbridge, New York.

EXCELL IRON and STEEL ROOFING and SIDING

Send today for Free Book and bottom Factory Prices on Metal Roofing and Siding. Made in our own factory. Better than you can buy elsewhere at any price. Shipped at our risk. You

Send No Money

so you take no risk. Our guarantee and see-what-you-buy-before-paying-Plan specify you pay nothing unless fully satisfied. Lowest prices on all roofing and roofing supplies sold straight to you from Factory at real Factory Prices. Don't buy till you get our prices and FREE Roofers' Guide—Write for this Book today.

The United Factories Co., Dept. 49-R, Cleveland, O.

ANCHOR FENCE



CATALOG FREE

Write at once for our new, money-saving plan, tells how to buy the best farm and ornamental fence at the lowest possible price, saving all jobber's and dealer's profits. We are saving thousands of dollars to fence buyers every year. Special agents' proposition. Write—

Anchor Fence & Mfg. Co.
Sta. D, Cleveland, Ohio

COIL SPRING FENCE



Made of high carbon Steel Wire Horse-high, Bull-strong, Chicken-tight. Sold direct to the Farmer at lowest manufacturers prices on 30 Days Free Trial, freight prepaid. 100 page Catalogue and price-list free.

KITSELMAN BROS.,
Box 271 MUNCIE, IND.

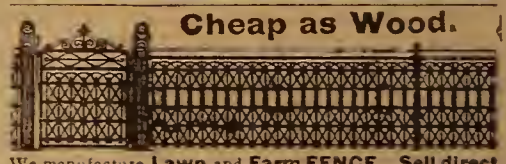
BROWN PAYS THE FREIGHT

HEAVIEST FENCE MADE

All No. 9 Steel Wire. Well galvanized. Weighs ⅓ more than most fences. 15 to 55c per rod, delivered. We send free sample for inspection and test. Write for fence book of 133 styles.

The Brown Fence & Wire Co.
Cleveland, Ohio.

Cheap as Wood.



We manufacture Lawn and Farm FENCE. Sell direct shipping to users only, at manufacturers' prices. No agents. Our catalog is Free. Write for it to-day.
UP-TO-DATE MFG. CO., 971 10th St., Terre Haute, Ind.

RANGER REVOLVING BARBED WIRE



THE ONLY ROTARY BARB MADE. DURABLE, STRONGEST, MOST EFFECTIVE, AND HUMANE.

WRITE US RODS YOU CAN USE. WE NAME PRICE DELIVERED.
KLEFS MFG. CO.
Block 62
KANSAS CITY, MO.

ORNAMENTAL FENCE



25 DESIGNS, ALL STEEL

Handsome—cheaper than wood—more durable. Special prices to churches and cemeteries. Don't buy a fence until you get our free catalogue.

Kokomo Fence Machine Co.
427 North St., Kokomo, Ind.

ORNAMENTAL WIRE AND STEEL FENCE

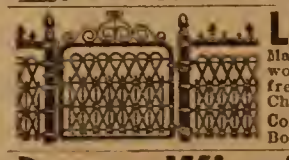


Cheaper than wood, combining strength and art. For lawns, churches, cemeteries Send for FREE CATALOG. Address

The Ward Fence Co.
Box 625 Decatur, Ind



LAWN FENCE



Many designs. Cheap as wood. 32 page Catalogue free. Special Prices to Churches and Cemeteries.

Coiled Spring Fence Co.
Box 414 Winchester Ind.

Wire Fence 29c



48-in. stock fence per rod only
Best high carbon coiled steel spring wire. Catalog of fences, tools and supplies FREE. Buy direct at wholesale. Write today.
MASON FENCE CO., Box 86, Leesburg, O.

Greider's Fine Poultry Catalogue.



Tells all about pure-bred poultry and Illustrates 60 varieties. Contains 10 beautiful chromos. Gives reasonable prices of stock and eggs. Tells how to cure diseases, kill lice, make money. Only 10 cts. postpaid. B. H. GREIDER, RHEEMS, PA.

Live Stock and Dairy

SHEEP ON THE FARM

The sheep and wool trade has come to the front in the last two years in a most vigorous style, and talk to whom we will, we get the impression that things have taken on a new lease of life. This is largely due to the fact that wool has sensibly increased in value, until at last the depressed sheep farmer has plucked up courage and begun business in an altogether different frame of mind. Those who have tarried by the sheep when prices were low have just cause for thankfulness, and no sheep men can find fault with the returns they have received during the past two years.

Taking stock for stock, and the amount of money invested in sheep compared with other classes of farm animals, sheep without doubt give equally as good a return, while many are of the opinion that the percentage of profit is higher than for cattle.

Sheep on the land are golden hoofed. Where they tread, as a rule they improve the soil. On the lighter soils, chalks, gravels and sands treading is literally an improvement, for it assists in the consolidation of the soil, while at the same time the animals are dropping liquid or solid manure, not one particle of which is lost. On the heavier soils the treading of sheep may at some time damage the condition of the soil, speaking mechanically; no man, however, would fold his sheep on heavy clay to cause it to poach. Sheep, then, have two values—first, that of improving the soil, either by manuring it or by treading and manuring combined, and next by providing mutton and wool. How, then, can we increase the profits which they return?

Every agriculturist is aware of the fact that the better the quality of the parent stock, whether it be animal or seed, the better the result in the produce. A great majority of farmers own flocks which are practically mongrel in blood. They may be of the type of the pure breed of the district, or they may not be; they are annually mated with rams which are selected at liberal prices from good flocks of pure-bred stock, and in this way the character of the flock is to some extent maintained, especially where the best ewes are selected for breeding, and the inferior rejected. It happens, however, that nearly every healthy ewe is retained, however imperfect she may be in form, breeding capacity and mutton-making character. The only way to level up to a high standard is to reject every animal from the breeding stock which fails to pass a standard of excellence, and that standard should be rigidly adhered to. The first thing to note, then, is the prime importance of blood, which imparts character, size, quality, prolificacy, rapid fattening and the power to produce the best meat in larger quantity on the best parts.

The quality of the wool produced by sheep is very materially affected by the feeding which the animals receive when the wool is being grown. Whenever sheep are allowed to run down in condition, a distinct weakness of the fiber of the wool will at once manifest itself in that portion which is at that particular time in course of active formation. When wool goes on the looms its inferiority at once becomes evident by the fiber breaking up and damaging the quality of the fabric into which it is being manufactured. In the production of wool it has been found that food rich in albuminoids is the best.

W. R. Gilbert.

◈

GETTING CATTLE FROM WINTER TO SUMMER FEED

There is quite a knack in getting cattle from winter feed over to summer feed with the least damage to the cattle and to the pastures. The change is quite a radical one, and it is important that it be made very carefully.

A great many farmers have the habit of turning out their cattle to pasture as soon as it begins to show green. There is but one combination of circumstances in which this can be done to advantage either to the live stock or to the pasture—namely, when the fall growth of blue grass has been allowed to remain on the ground during the winter, and until the green grass begins to show under the old crop. The cattle can then be turned onto it with great profit both to the live stock and the pasture. This green grass, which has been lying under the snow during the winter season, is almost as good through the winter as it was in the fall, and while it loses much of its value by the cold winds and rains of March, nevertheless it has a great amount of feeding value. When the live stock are turned onto this their rations are so gradually changed from dry feed to green feed that they thrive right along while the change is being made.

It is quite otherwise when cattle must be turned on pastures that have been closely eaten down in the fall of the year. Here the grass comes more slowly, and when cattle must be turned on this kind of pasture, even for an hour or two in the day, before they can get a full bite, they are indisposed to eat hay or fodder, and hence are very likely to fall away in flesh instead of gaining, as cattle should.

I could never see any advantage in turning cattle on an ordinary pasture before they were able to get a full bite. If they are kept on dry feed all this time, this involves a radical change; hence, they are not expected to gain much the first month while this change is going on.

All this shows the importance of having on every farm of any considerable size a permanent pasture, which can be grazed as close as is desirable up to the middle of the summer, and then allowed to make very considerable growth by not being too closely pastured in the fall, in order that it may be held as a reserve in the spring, by means of which live stock can be changed over from winter feed to summer feed without any damage either to the pasture or to the animals themselves.

A sudden change from winter feed to summer feed is especially harmful where the pasture is largely clover. Unless very great care is taken, cattle will so gorge themselves with this luscious feed that bloating is likely to result. Even where this does not occur, the cattle will not show much gain for two weeks, and possibly a month.

Wm. H. Underwood.



FIRST PRIZE COTSWOLD YEARLING AT MINNESOTA STATE FAIR, 1907



GET THIS BIG BOOK, FREE!

You may know a good deal about poultry-raising for profit—but you'll likely find much information that's new to you in Pratts New Poultry Book. We have gone to great expense to publish this large book, intending to sell it at 25c a copy. But if you are interested in raising poultry for profit you can get a copy entirely free by sending us your name and address, stating you want Pratts New Poultry Book.

The book is strictly up to date and most complete in every particular; describes all the different breeds, and which are best—gives plans and specifications for model poultry houses—tells how to raise poultry for market—how to make hens lay all the year 'round—how to prevent and cure various poultry diseases, etc. It's a book you will want to keep handy where you can constantly refer to it—every bit of information is worth money to you. Send for *your* copy today. You'll soon learn how to increase the egg-production of your hens, if you try a package of

Pratts Poultry Regulator

This is just what hens need to aid their digestion, regulate their bowels, and other organs, and keep them in perfect health. Remember that only healthy hens lay—and that it's the healthiest poultry that grows quickest and biggest for market. That's why Pratts Poultry Regulator will enable you to make more profit out of your poultry. Get a package from your dealer today—costs 25c to $3.50 according to quantity.

EXPERT ADVICE FREE

When anything happens to your poultry or other livestock, write us, describing the symptoms, and our expert Veterinarians will advise you what to do. This service is absolutely free.

TWICE GUARANTEED

Every Pratt Preparation you buy is twice guaranteed—by us and by your dealer—to do everything claimed for it. You run no risk whatever—so why shouldn't you try them?

Remember Pratts Powdered Lice Killer, Pratts Head Lice Ointment for little chicks, and Pratts Roup Cure, are fully guaranteed. Ask your dealer about them.

Pratt Food Co of Philadelphia — Department 1 — PHILADELPHIA, PA.



WHETHER you live in the city or country, you'll find no .22 calibre repeating rifle like the *Marlin Model 1897*.

For the city man it is a perfect companion for the vacation or outing trip. It's light, takes down and packs in a small space. The ammunition is inexpensive. The gun can be used with .22 shorts for target and is equally capable of handling .22 long or long-rifle cartridges without change of mechanism.

On the farm the rifle is a necessity. The short cartridge is sufficient for sparrows, squirrels and small game; and the long-rifle cartridge makes the *Marlin* Model '97 a distinctive weapon for geese, foxes, hawks, etc. up to 200 yards.

The "*Marlin* Book" of 136 pages, with handsome art cover, is jam full of up-to-date information for all gun-lovers and gives full description of all *Marlin* repeaters. It's FREE for 3 stamps postage.

141 Willow St., *The Marlin Firearms Co.,* *New Haven, Conn.*



$3.50 PAIL FREE

TO PROVE BEYOND ALL DOUBT TO EVERY INTELLIGENT STOCK RAISER THAT

WILBUR'S STOCK TONIC

is the world's greatest conditioner and feed saver, we will actually give away one full sized 25 lb. pail to every reader of this Paper where we have no agent, who writes us a letter and answers these questions. First:—What Live Stock do you own_____ Hogs_____Cattle_____Horses. Second:—Write your Name, Post Office, Freight Station and State, very plainly. Mail your letter today and get your Free $3.50 Pail of Wilbur's Stock Tonic. WILBUR STOCK FOOD CO., 402 Huron St., Milwaukee, Wis.



COLUMBUS BUGGIES

THE STANDARD OF QUALITY EVERYWHERE

You should not fail to examine our famous line of Columbus Buggies, Runabouts, Driving Wagons, Surreys, Carriages, Phaetons, Stanhopes and a large variety of light Pleasure Vehicles which are now sold direct to Consumer at Factory Prices, saving you the Home Dealer's Profit of 40 to 60 per cent.

FREE COLUMBUS STYLE BOOK. Fully explains every detail of our celebrated Columbus Vehicles and our plan of selling direct from our Factory to you at Rock-Bottom prices. Every vehicle sold on One Full Month Trial and guaranteed two years. We will furnish you with a vehicle of your own choice painted and trimmed just as you want it—properly proportioned and mechanically correct. Send at once for our free catalog, look it over—our low prices for Columbus, quality, style and workmanship will surprise you—write for free catalog today.

THE COLUMBUS CARRIAGE & HARNESS CO. 2031 So. High Street, Columbus, Ohio

Live Stock and Dairy

Pig Breeding and Feeding

For the Pedigree Breeder and the Ordinary Farmer

During the past two years that humble friend of agriculture, the pig, has enjoyed a full measure of popularity. The why and wherefore of this is not obscure. As a rule, when the market booms there is a good reason for higher prices, although the magnitude of the increase does not always have direct relationship with the apparent scarcity of supply. There can be no corner on the products of the pig. Breeding and feeding are in too many hands for even the most skilled operator to create an artificial rise in quotations either for porkers or baconers. Those who have studied the markets of the world realized many years ago that better times were in store for pig breeding. The writer's intention is not to elaborate a universal experience, or to dwell upon the reasons why this should be so, but to refer to one or two questions pertaining to pig breeding from the points of view of the pedigree breeder and the ordinary farmer, who may not keep as many breeding sows as fill his yards, but is dependent upon the store market.

THE VARIOUS BREEDS

Perhaps a word or two is first of all permissible upon the breeds themselves. The keen observer cannot fail to have noticed one thing in particular in relation to pedigree-stock breeding. It has resulted in the transplanting of various breeds into districts to which, hitherto, they have been foreign. Take the case of the Berkshire as an example. It is probably true to say that at one time there was a no more provincially domiciled breed than the popular black. Yet as a result of careful breeding and the advertisement peculiar to pedigree, they are to be found everywhere. This is due, particularly of late years, to the continuous extension of the circle of supporters who recognize the sterling qualities which have made the large black one of the best of the ordinary farm pigs.

To the white breeds, however, have fallen the distinction of being most widely distributed. The large white is equally at home in the Arctic climate of the Far North and the more temperate ones of the South. Nor is it surprising, for we have no better bacon pig, and none that crosses more readily and with greater advantage to the resultant progeny. The aim of the large white breeder has been to maintain size, but he will have quality. It is quite correct to say that the pigs of thirty years ago were bigger than they are to-day, but it is also true to qualify that observation with the remark that they were coarser. The bacon curer has effected the change, and when we come to examine the sources whence some of the chief bacon factories draw their supplies, the fact that impresses itself most on the mind is that the large white boar has been freely employed to grade up the ordinary farm pigs of the neighborhood.

Breeders to-day are keeping in view the lengthy pig, with as little waste about shoulders and jowl as possible. It is a curious fact that the large white-pig breeder will not countenance the thick-shouldered type of pig, while the Berkshire breeder, on the other hand, does not object to a pig somewhat dense at the shoulders, provided he is not visibly coarse. There is another point, too, in which great improvement is noticeable in the large white, and that is the immunity from spots. The objectionable blue spot is an inheritance from other sources, no doubt at one time used in building up the breed.

The middle white is a handy weight. Of late years it has more than ever approximated to market requirements, and for crossing purposes imparts a fine thickness of flesh. At the same time there is a tendency nowadays to get away from too short snouts. There can be no doubt that in the average middle white there is more waste than in a large white for bacon purposes, and it is the bacon pig that scores. The smaller white porkers are all but extinct, and have no place on the farm to-day, if profit is the standard by which their utility is to be judged. They are still kept as a fancy, but in the show yard are seldom provided for.

The Berkshire has scores of friends, and it is a correct reflection of its present position to say that it enjoys the most influential backing. If a pig touches a big price in the sale ring, depend upon it, it is a Berkshire. The one quality in which breeders claim that the Berkshire is supreme is in the readiness with which it will put on flesh on a minimum diet. It grows well. Moreover, it shares with the large white popularity for crossing purposes. Not so many years ago—shall I say fifteen?—breeders could not get them big enough. The cry seemed to be for pigs of monumental proportions. That craze died. It was followed by another extreme—a short, dumpy pig of superfine quality. To-day, however, a happy medium is being observed, and breeders are doing all they can to encourage lengthy pigs. They realize that for bacon purposes length is necessary.

The Tamworth is one of England's little-known breeds at home, but with us in the States is a favorite. The Tamworth is more delicate in tastes than the Poland China or Duroc Jersey; being a pig of superfine quality. There is a wide gulf between the show Tamworth and the ordinary farm pig of this breed. No doubt that is due to the magnificent work of a few breeders; but even the best of them cry out for new blood, knowing the difficulty of obtaining it, and the serious consequences attendant on its denial.

The Tamworth is solely a bacon pig, and some of the finest specimens with a little more shapeliness in their hams could well be presented as an ideal from a curer's point of view. The ordinary farm Tamworths are of a roving disposition, and somewhat long in the leg, to be regarded as ideal pigs.

One of the latest recruits to the pure breeds of pigs is the large black. The progress it has made is quite astonishing. It holds the fort in Essex, Suffolk and the southwestern counties of England. For many years this breed, with its peculiar formation of ear and head, was kept on the farms in certain districts, but it has progressed very materially in two directions. Firstly, there is an evident tendency to inculcate early maturity, and, secondly, to run to weight. Breeders should direct their energy toward demonstrating its value for crossing purposes. The large white and the Berkshire owe their prosperity largely to this, and a few public object lessons in the potentialities of the large black boar for cross-breeding would do much to establish the reputation of the breed.

FEED AND FORAGE

In these days of early maturity the question, Should the pig have a probationary period as a store? has been put and answered variously. This problem has really a wider application than merely to pig breeding. The farmer who combines breeding with feeding, as a rule does not keep his young pigs under continuous fattening. It is one thing for the specialist to proclaim that it is most profitable to abolish the store pig, but there are many farmers so situated that it pays them better to breed on a small scale and sell their pigs young, leaving the fattening to others. After all, the pig is a natural forager, and it is questionable whether it would really pay better for the average farmer to feed expensive corn and barley meal in preference to utilizing the natural propensities of the pig to forage a little for itself in the summer months. The farmer who markets his hundreds of pigs annually usually enjoys exceptional facilities, but there is much to be said for the probationary period as a store.

In the matter of pig management most difficulty is experienced in the selection of food. It is a fact of common knowledge that the finest bacon is produced by the aid of barley meal. But even in these piping times of porcine prosperity the balance sheet would not appeal much to the farmer who was too liberal in its use. All things considered, a few oats and bran to the young stock, and finishing on a mixture of corn and barley meal, will be found most satisfactory. The very finest bacon can thus be produced. Potatoes can be utilized very profitably in the pig pen. It is a common custom among good feeders to select the damaged or slightly diseased tubers, cook them with steam, and feed as a warm meal. Household slops are good, but care to eliminate that common article of household use, soda, is necessary. Whey is bone forming, and separated milk will perform a similar function. In summer a bite of alfalfa cannot be bettered. The pig is then in clover.

One asset of pig keeping should not be overlooked. Pig manure is exceptionally rich, and after what is turned into pork there is a residue which can be used to the greatest profit on the farm.

W. R. Gilbert.

RAPE FOR SWINE

In June I sowed a small patch of rape, but it seemed to be slow in coming up; and after it was up it made but a feeble growth, on account of the dry weather which then prevailed. After it rained it grew faster and soon attained a rank growth. I pulled up the plants and threw them to my pigs, and every shred was eaten with a relish, and I am certain that my pigs grew better and fattened faster than in former years, when no rape was fed.

One good thing about rape is that it withstands a great deal of cold weather. During the past fall we have had a great deal of cold weather, and in November the ground was frozen several times to the depth of one inch, but still the feeding qualities of the rape remained unimpaired.

Jas. B. Stephens.

KEROSENE ENGINES Great Saving of Cost in Operating Gasolene Engines—Adapted for every kind of power—3, 5, 7, 9, 10, 13, 15, 18, 20 Horse Power. Manufactured solely by THE TEMPLE PUMP CO., 15th and Meagher Streets, CHICAGO, ILLINOIS.



H. C. Phelps

Let Me Pay the Postage on My Big Free Buggy Book to You

Although these books cost me 8cents each to mail, for postage alone, yet I'll gladly send you one, FREE, because I want you to know about SPLIT HICKORY BUGGIES—Made to Order—Sold Direct From My Factories to you on **30 DAYS' FREE TRIAL**—Guaranteed Two Years.

This Book Means a Saving of $25.00 to $40.00 to You

on just the Vehicle you want—because of the DIRECT Factory Prices it quotes you. Get this Book—sit down of an evening and look it over. It contains actual photographs of more Vehicles and Harness of every description than could be shown in ten dealers' salesrooms—over 125 different styles of Vehicles and Full Line of Harness.

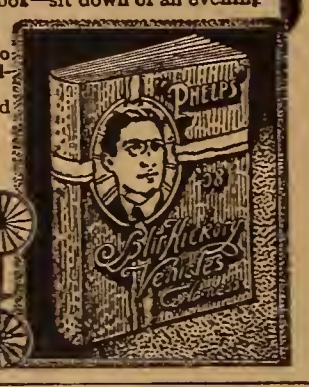
This is my latest 1908 Book—and it is truly a Buyer's Guide. It not only gives descriptions and prices—but it also tells how good Vehicles are made—why they are better made my way—all running parts made of Second Growth Shellbark Hickory—split with the grain—not sawed across it—thus giving extra strength and long wearing qualities.

SPLIT HICKORY Vehicles are trade mark Vehicles—known in every state in the Union for highest qualities and lowest prices, and my celebrated **30 DAYS' FREE TRIAL PLAN** proves all my claims.

Making Vehicles to order, I give you any option as to finish, style, etc.,—that you get from no other manufacturer. Buying direct from my factories brings you in touch with the people who make your Vehicle.

My Two-Year Guarantee is to you—direct. My Free Trial Plan is to you—direct. My prices are to you—direct. No roundabout transactions as when buying through dealers. No dealers' profits added in the price of your Vehicle—all meaning a big saving and more satisfaction to YOU. Over 125,000 Split Hickory Vehicles now in use. LET ME SEND YOU THIS BOOK AT ONCE. Address

H. C. Phelps, President, THE OHIO CARRIAGE MFG. CO., Sta. 23 Columbus, Ohio



H. C. PHELPS President. *Write For Split Hickory Buggy Book Today Free*

Tons Of Energy

In Pounds of Feed



Working energy in the horse is much like steam in an engine—both are developed by economical fuel consumption. If then the digestive apparatus of the horse extracts from its food the full amount of nutrition which can be assimilated, he is certainly in the best nurtured and most vigorous condition for hard labor. Now digestion in the horse may be easily deranged becauses he possesses a small stomach and high-strung nervous system. Hence heavy feeding requires judgment and instant correction of the first wrong symptom.

Horses receiving regular small doses of Dr. Hess Stock Food show best as drivers or workers. It corrects a tendency toward indigestion and strengthens the organs up to a point where the largest amount of ration may be assimilated. It increases appetite so that the horse takes food with a relish. This is especially important in the case of a beef animal, and experience shows that a Hess-fed steer will eat more roughage and fat on *less grain* than an animal not so handled.



DR HESS STOCK FOOD ATONIC

makes good digestion and good digestion saves nutriment which would otherwise go to the manure heap. The ingredients in Dr. Hess Stock food are endorsed by Professors Winslow, Quitman and Finley Dun, our most noted medical writers. It holds iron for the blood and nitrates to cleanse the system. It makes cows give more milk and shortens the time necessary to fat a market animal. It is the prescription of Dr. Hess (M. D., D. V. S.) and is *sold on a written guarantee.*

100 lbs. $5.00. 25 lb. pail $1.60 Smaller quantities at a slight advance. } Except in Canada and extreme West and South

Where Dr. Hess Stock Food differs in particular is in the dose—it's small and fed but twice a day, which proves it has the most digestive strength to the pound. Our Government recognizes Dr. Hess Stock Food as a medicinal preparation and this paper is back of the Guarantee.

FREE from the 1st to the 10th of each month—Dr. Hess (M. D., D. V. S.) will prescribe for your ailing animals. You can have his 96-page Veterinary Book any time by asking. Mention this paper.

DR. HESS & CLARK, Ashland, Ohio.

Also Manufacturers of Dr. Hess Poultry Pan-a-ce-a and Instant Louse Killer.

INSTANT LOUSE KILLER KILLS LICE.

Live Stock and Dairy

FEED AFFECTING MILK

J. H., of Laramie, Wyoming, writes: "Will you please tell me if stable cleanings will make as pure milk as good, fresh hay? I have read in Farm and Fireside that a cow should have plenty of good food and clean water, but recently a chemist told me that a cow kept on the hay and manure from a horse stable would not have her milk affected. I am not a chemist, but I fail to see how a cow can give good, pure milk when fed nothing but stable cleanings."

Evidently your friend, the chemist, belongs to that class that knows a great many things that are not true, and is not a safe guide to follow in up-to-date cow feeding. No doubt the chemist can take horse manure and stable rejections into his laboratory, analyze them and find protein, carbohydrates and fat in them. Knowing that these are the nutritive elements in feeds, and that from the consumption of them the animal maintains its body and operates its bodily functions—does work, makes growth or milk—he assumes that here he has found proper and sufficient feed for the animal, in this instance the cow. The mere fact that a cow will eat a certain feed is no evidence that she should eat it, that it is good either for her health or the wholesomeness of her product.

As we know, many a cow will eat not only refuse matter from a horse stable, but horse manure and straw used for bedding the horse, and it may be that her digestive abilities may enable her to recover some of the nutritive matter rejected in the manure of the horse. It is well known, of course, that no animal can use all the nutritive elements in any organic feeding substance—that portions are passed unused in the excrement. It is equally true that the excrement carries away from the body of the animal poisonous waste matter that must prove highly prejudicial to the health of another animal taking it in as food.

Just how the cow makes milk from feed eaten, not even the chemist has yet told us. Why one cow eating a given ration will give us fifty pounds of three-per-cent milk, while another, using an equal ration, will make forty pounds of five-per-cent milk, and still another, using a like feed, will not make over twenty pounds of four-per-cent milk, are problems as yet beyond the sweep of our knowledge of our most venturesome guessing. But it is pretty definitely settled that to make good, pure milk the cow must be in good, normal health.

The cow certainly does not make her milk directly from her feed, but by her feed her body is nourished; and from the nourishment of her body her bodily functions are made active, and one such function is making milk. Hence, any constitutional disturbance of the natural activity of bodily functions must affect the character of such a sensitive product as milk.

This point is easily understood when we consider the variations of the butter-fat content of the milk of an individual cow. In normal condition her milk composition is normal. Subject her to unusual treatment, so that the even habits of her life are disarranged, and see how quickly she records it in the quantity and compostion of her milk.

Therefore, when we allow or force her to use as feed horse-stable rejections, that must carry not only a very low percentage of crude nutrition, but from its very nature is a menace to health as well. it is absurd to expect the cow to give milk as wholesome for food as the same cow would give if fed on sound, easily digested, clean feed. The milk stream cannot run purer than its source.

The human mother in nursing her offspring well understands that the condition of her own health affects the health of the suckling, and when the babe is young gives careful thought to her own diet.

It is not likely that the chemist would find any material variation in mother's milk, whatever might be her diet. The bacteriologist might. If neither could, the babe and suckling could teach them.

When it is remembered that the milk from our cows goes in many cases as food for infants and invalids, the obligation rests upon us that the feed nourishing the cow making the milk be of better integrity than rejections from the horse stable.

W. F. McSparran.

◈

DOES IT PAY TO KEEP A FAMILY COW?

How often do we hear this question asked, and hear it answered in both the negative and the affirmative.

In order to satisfy myself on this question, I have kept a complete record for one year of our family cow, and can answer in the affirmative. I do not make any claims for her as the champion milker or butter maker, but she is a good kind of a cow for a family living in or near a city.

This cow dropped her third calf December 5, 1906. Five days later the calf was sold to a stock raiser, so we will commence her record with December 10, 1906.

At the same time it must be remembered that the feed for the entire year was bought at retail prices. During the summer season she was staked out to pasture on vacant lots in the neighborhood.

The expenses for the year were as follows:

December—Hay, mill feed, fodder	$30.82
January to September—Mill feed	20.85
October to December—Hay, mill feed, straw, fodder	16.25
Total	$67.92

The monthly receipts during the year, counting the milk worth twenty cents a gallon, were:

December 10-31	63	gallons	$12.60
January	93	"	18.60
February	84	"	16.80
March	93	"	18.60
April	90	"	18.00
May	93	"	18.60
June	90	"	18.00
July	77½	"	15.50
August	62	"	12.40
September	15	"	3.00
November	78	"	15.60
December 1-10	30	"	6.00
Total receipts			$173.70
Expenses			67.92
Profits			$105.78

It will be seen by the above record that she gave three gallons of milk a day except in July, August, September and October.



A NEW YORK DAIRY BARN

By mill feed I mean bran, chop, gluten, cotton-seed meal, etc.

We also experimented in feeding to find which gave the best results, and our decision in this line was in favor of bran, gluten and cotton seed.

Some persons say it is too much bother to attend to a cow, but then the bother pays. W. C. W.

◈

Our guarantee on the editorial page means that we are very careful in selecting the advertisers who use our columns. It means that you can buy the goods advertised with confidence of square treatment.

THE BROOD SOW

We often read of the large, roomy sow that has a large number of teats for the accommodation of large litters. I have heard it claimed that the brood sow should have sixteen teats, but I have never seen a sow with so many, and I am very well satisfied with the sow that will farrow eight or ten pigs and raise them. The sow with the very large litter cannot eat enough to support herself and to make the pigs grow satisfactorily until they are able to live without the aid of their mother's milk.

In selecting the brood sow I make it a rule to keep the sows that have proved satisfactory as long as they are useful as breeders, and thus avoid having to select new breeding stock so often. When I do select young sows I want to know something of their breeding for several generations back, because the hereditary tendencies should be favorable. Then I want a reasonably growthy animal, not overgrown, but of good size, that conforms as well as may be to the standard of the breed. Coarseness may be allowable in the brood sow, but it is not preferable, and I think that the sow as well as the boar should be as good a specimen of the breed as can be secured. The sow should have ten or twelve teats, but there are few sows that do not have at least ten teats, and so this point may not be of so much importance.

The sow's strong points should mend the weak points of the boar if best results are to be secured. In selecting the sow, many persons do not consider the type of boar to which they intend to breed their sows, and as a result both parents often have the same weak points, and the weak points are strengthened in the offspring. Especially is this the case when they are nearly related. A. J. Legg.

◈

RAISING THE COLT BY HAND

It not infrequently happens that colts are left motherless while yet quite young. Such colts are not an entire failure. They can be reared by hand, and thrive quite well where the proper care is given them.

If the colt has had even one or two feeds of its mother's milk it is well started, but where it has had none it is in a worse shape. In such case the bowels should first be opened with a dose of castor oil, and a short while after that it can get its first feed. To make a substitute of its mother's milk, take fresh cow's milk, add to it one fourth water and sweeten somewhat with sugar. This should be fed to the colt at blood temperature four or five times a day.

After the colt is a few weeks to a month old it can be fed a little oat meal or other soft food. Even before this time it will begin nibbling soft grasses. Although the colt must be started in very slowly on these feeds, it will be found that they help wonderfully. Gregor H. Glitzke.



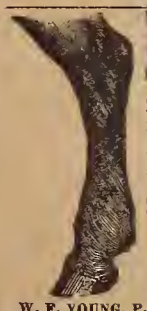
The 1908 Improved
DE LAVAL CREAM SEPARATORS
are ten years ahead of all others in every feature of separator construction
Ten New Styles-Ten New Capacities-Ten New Prices
A size for every dairy, from the smallest to the largest.
BEAUTIFUL IN DESIGN
PERFECT IN CONSTRUCTION
EVERLASTING IN DAILY USE
The result of thirty years experience in building separators. See the improved DE LAVAL before you buy, or you must surely regret it later on. Send for handsome new catalogue of 1908 machines to be had for the asking.
THE DE LAVAL SEPARATOR CO.
42 E. Madison St. CHICAGO
1213 & 1215 Filbert St. PHILADELPHIA
Drumm & Sacramento Sts. SAN FRANCISCO
General Offices: 74 Cortlandt Street, NEW YORK.
178-177 William Street MONTREAL
14 & 16 Princess Street WINNIPEG
107 First Street PORTLAND, OREG.

MINERAL HEAVE REMEDY


NEGLECT Will Ruin Your Horse
Send today for only PERMANENT CURE
SAFE CERTAIN
$3 PACKAGE will cure any case or money refunded.
$1 PACKAGE cures ordinary cases. Postpaid on receipt of price. Agents Wanted
Write for descriptive booklet
MINERAL HEAVE REMEDY CO., 425 Fourth Ave., Pittsburg

$26.30 SEPARATOR

HAVE YOU SEEN OUR LATEST IMPROVED 1908 MODEL ECONOMY CREAM SEPARATOR? Built on the low down order, easy running, simple beyond comparison. Skims to a trace. The easiest running, closest skimmers, strongest and by far the best cream separators ever made. Prices so low they scream for attention. Look in one of our latest Big Catalogues for cream separators. If you haven't a Big Book borrow your neighbor's; otherwise before buying a cream separator anywhere at any price, on a postal card addressed to us, simply say, "Mail me your latest and greatest Cream Separator Offer. ADDRESS,
SEARS, ROEBUCK & CO., CHICAGO


ABSORBINE
Cures Strained Puffy Ankles, Lymphangitis, Bruises and Swellings, Lameness and Allays Pain Quickly without Blistering, removing the hair, or laying the horse up. Pleasant to use. $2.00 per bottle, delivered with full directions. Book 5-C, free.
ABSORBINE, JR., for mankind, $1.00 Bottle. Cures Strains, Gout, Varicose Veins, Varicocele, Hydrocele, Prostatitis, kills pain.
W. F. YOUNG, P. D. F., 23 Monmouth St., Springfield, Mass.

WIDE TIRES BEST

Carry sixty per cent more load than narrow tires under same conditions. Save money because never need repairs. We furnish steel wheels any size to fit any axle—get a set for your wagon. Our free Catalogue tells the farmer how to save money—write for it.
EMPIRE MANUFACTURING CO., Box 109-Z, Quincy, Ill.


MAKE YOUR HORSE YOUR FRIEND If he's a good horse he'll be better. If vicious or has bad habits all can be promptly and permanently cured by my system. Anyone can do it. Postal brings full information free. Write today.
PROF. JESSE B. BEERY, Pleasant Hill, Ohio.



NEWTON'S Heave, Cough, Distemper and Indigestion Cure. A veterinary Remedy for wind, throat and stomach troubles. Strong recommends. $1.00 per can, of dealers, or exp. prepaid.
The Newton Remedy Co. Toledo, Ohio.


Wheels, Freight Paid $8.75
for 4 Buggy Wheels, Steel Tires on. With Rubber Tires, $15.20. 1 mfg. wheels ¾ to 4 in. tread. Rubber Tire Top Buggies, $41; Harness, $5. Write for catalog. Learn how to buy direct. Repair Wheels, $5.50. Wagon Umbrella FREE. F.F. Boob, Cincinnati, O.

SUBSCRIPTION PRICE

One Year (24 numbers) 25 cents
Five Years (120 numbers) $1.00

Entered at the Post Office at Springfield, Ohio, as Second-Class Mail Matter.

Subscriptions and all editorial letters should be sent to the offices at Springfield, Ohio, and letters for the Editor should be marked "Editor."

The date on the address label shows the time to which each subscriber has paid.

Subscribers receive this paper twice a month, which is twice as often as most other National farm journals are issued.

Silver, when sent through the mails, should be carefully wrapped in cloth or strong paper, so as not to wear a hole through the envelope.

When renewing your subscription, do not fail to say it is a **renewal.** If all our subscribers will do this a great deal of trouble will be avoided.

FARM AND FIRESIDE

PUBLISHED BY

THE CROWELL PUBLISHING COMPANY
SPRINGFIELD, OHIO

Branch Offices: 11 East 24th St., New York City.
Tribune Building, Chicago, Ill.

ABOUT ADVERTISING

FARM AND FIRESIDE does not print advertisements generally known as "readers" in its editorial or news columns.

Mention FARM AND FIRESIDE when you write to our advertisers, and we guarantee you fair and square treatment.

Of course we do not undertake to adjust petty differences between subscribers and honest advertisers, but if any advertiser should defraud a subscriber, we stand ready to make good the loss incurred, provided we are notified within thirty days after the transaction.

FARM AND FIRESIDE is published on the 10th and 25th of each month. Copy for advertisements should be received twenty-five days in advance of publication date. $2.00 per agate line for both editions; $1.00 per agate line for the eastern or western edition singly. Eight words to the line, fourteen lines to the inch. Width of columns 2¼ inches, length of columns two hundred lines, 5% disconnt for cash with order. Three lines is smallest space accepted.

Letters regarding advertising should be sent to the New York address.

Mud and Road Money

An Unjust Penalty

"How's the farm?" I asked the owner of a quarter section of black gumbo soil in the richest farming section of Illinois.

"Nothing doing! Dead to the world! and we'll be closed up from now till steady fair weather, tighter than a bucket-shop in Texas. The mud just puts us plumb out of business for about four months in the year. That's what we have to pay for having corn land that's as rich as home-made molasses cake. You couldn't haul half a fair load to town now with the best team of horses in the county. Some of the time a double team can get the family to the village in a democrat wagon if the family isn't too big, but the really fashionable rig in our country is the front trucks of a strong farm wagon. That's about the only thing you can depend upon for breaking the mud quarantine."

"It strikes me," I answered, "that you're suffering from bad roads, not from too rich soil." Then I called on Howard H. Gross, Secretary of the Good Roads League of Illinois, and asked him the how of it. He's a live wire and hits out straight from the shoulder.

Aid Should Be National

"This country is ahead in everything but roads. There are a lot of countries that have us skinned to a finish. Things are doing on the roads question all over the United States right now, and it will not be long before this subject will have the floor everywhere, from the cracker box of the corner grocery to the halls of congress, and it deserves to have. It's the big thing for the farmer, for the merchant, for the great public at large.

"But the need of the moment is national aid in the building of good, permanent, hard roads. With that will come plenty of state aid and enthusiastic county and township co-operation and activity. There is much misunderstanding on the part of an important class of our people as to the basis of national aid for good roads. Valid objections must be based either on ethics or economics; upon the contention that it is either *poor morals* or *poor business* for the national government to help build good, stable roads. Some say, 'The funds of the government would be subjected to a scramble, to political pull, and would be likely to be dissipated.' And so they might if it was proposed that the national government should furnish all the funds. But the proposal is that no state or community shall draw a dollar from the government until the work is completed and the local community or the state or both together have spent three dollars. Then, and not until then, is the national government to be asked to chip in its dollar.

Little Chance for Graft

"If it is urged that the work might not be well done, that there is liability of graft in the matter of contract, the answer is that the work would have to be done under state supervision, according to specifications approved by the national government, and that the money would be paid out solely by the state; the local authorities would have nothing to say about this phase of the matter. There is less opportunity for graft in this than in any other kind of public improvements.

"If it is urged that the government is already too paternal, and to take up road building would be another step in this direction, that local pride ought to be sufficient to stimulate road building, the answer is: Local pride does not do it. Again, the government is a partner in the roads, it uses them for mail delivery, and would benefit by the improvement. Why should it not help pay? While it would pay only one fourth the cost, it would profit by the whole improvement, it would simply be doing its duty to itself. There is no paternalism in this.

Time to Wake Up

"Bad roads produce a waste and burden market conditions. These affect every person throughout the land, and are, therefore, not a local question. Road conditions in Illinois, for example, influence the price of produce in New York. Shall the residents of the city continue to suffer indefinitely because the farmer cannot or will not build good roads and relieve the situation? From the farmer's viewpoint the task is an impossible one. Therefore he usually pockets his loss, swallows his pride and does not attempt the task. Great undertakings, the benefits of which are country wide, have proven too great for local solution, and such as will lessen waste, conserve energy, advance civilization and increase wealth are legitimate government functions.

"If it is claimed that if the government took a hand in building the roads the people would become indifferent and lose interest, the answer is that under the plan proposed the government does not take a hand in *building the roads*, it only helps pay for a part of certain roads which the people build, and when the government wakes up, the people will wake up, too.

Not an Untried Problem

"Now for the economic side of this question. The total burden of the government tax is now about ten dollars per capita. The aid suggested would increase this only seven cents a year. This would not be felt by any individual. Shall the annual expenditure of millions for the improvement of waterways and harbors, for the reclamation of semi-arid lands and the like be continued and the government refuse to help build roads for the farmer to haul his produce over? There is nothing problematical about national aid in good-road building; it is the only method ever tried in the world's history that has been successful. In a word, the national government has the right, the need, the ability and the precedent to solve this question, and every farmer in the country ought to push hard for national aid. In Europe, Australia, New Zealand, South America and every other foreign country in which national aid has been tried in good-road building it has been a splendid and unqualified success."

To me this listens all right. Perhaps the farmer can see something the matter with it, but it stacks up to the writing man like the real thing. Anyhow, the farmer of this community—and especially of its richest agricultural parts—can never come into his own until a spell of soft weather has lost its power to stop business exchange and social intercourse between farm and town. This movement has a hump on itself, and it's going to break the ice of indifference and get things going.

To Our Readers

We offer you our thanks and our congratulations. The showing you made last month in renewing your own subscriptions and in sending us new subscriptions puts a real obligation upon us—an obligation to keep FARM AND FIRESIDE as low in price as possible for your present and future benefit. This we promised you we would do.

"FARM AND FIRESIDE Day" directly and indirectly will mean to us fully

Seventy-Five Thousand Yearly Subscriptions.

Definite figures were not available when this page went to press. What does it mean to you of the FARM AND FIRESIDE family? Just this, and we have reached this decision after a considerable amount of thought and figuring: For the present we will withdraw only the two prices, Three Years for Fifty Cents, and Seven Years for One Dollar, and we will allow, *for the time being*, the one-year price to remain at twenty-five cents, and will add the additional offer of Five Years for One Dollar.

This is better than we had hoped to do, but your co-operation has made it possible, and we shall show our appreciation by making FARM AND FIRESIDE during the coming months as helpful and entertaining as we know how.

For each species of plants there are certain conditions best suited for its highest development. Success with a crop consists largely in growing it in environments adapted to its needs.

◈

Do not neglect the business methods in your farming operations. Producing good crops and animals is an important phase of successful farming, but not the only one. An article which has been produced at too great cost or marketed unwisely may bring no financial gain.

◈

Nearly all soils have an abundance of plant food in an unavailable condition. It has been found that decaying vegetable matter, by reason of its decay, liberates, or makes available, this potential plant food found in soils, hence the importance of keeping soil well supplied with humus.

◈

Make a study of your own soil conditions, so that you will be able to more fully control the factors which are affecting the yields of your crops. A little effort in the right direction may overcome a condition which is unfavorable to the growth of a crop, and thus materially increase the yield.

◈

Not all of our farm land needs artificial drainage. Much of it is drained naturally, but where the soil is kept too wet it becomes sour and is cold, and neither plants nor bacteria thrive. In such places it is necessary to provide drainage if the maximum of crop production is to be realized.

◈

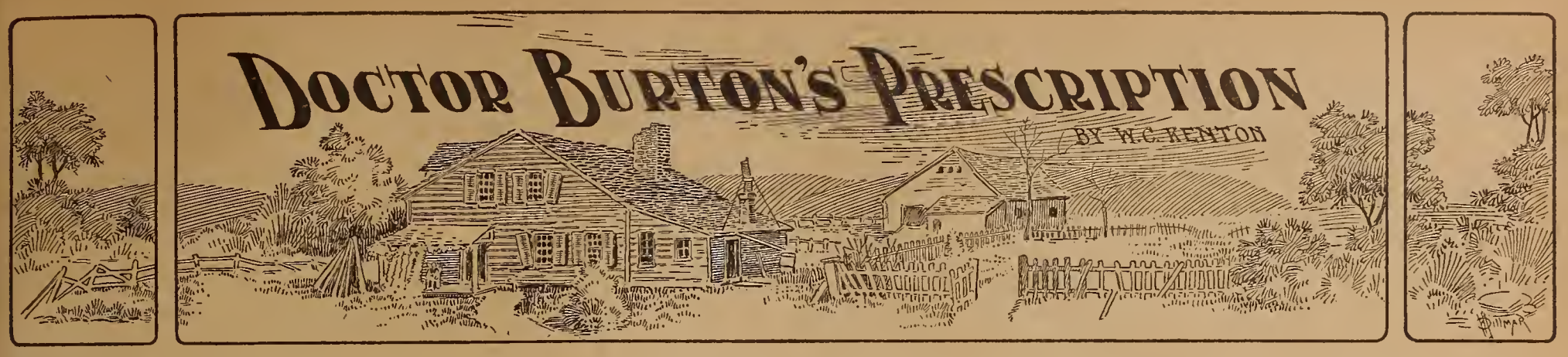
It is not well for the farmer to attempt to keep a system of books that will prove a burden to him, but a few simple records adapted to his own conditions and some calculations about the cost of the production of the various crops will show him where he may be able to eliminate some sources of loss.

◈

A more intelligent understanding of the common farm problems will enable every active farmer to better his conditions and increase his returns. The agricultural college, the experiment station, the Department of Agriculture at Washington are all willing to aid the farmer in his efforts and will help him solve many a vexing problem if he will only ask their aid.

◈

If your land is inclined to wash badly during the spring rains, sow it to some crop that will fill the soil with a growth of fibrous roots, and these will aid in correcting the trouble. If you are putting it in a hoed crop this spring, make it a part of your plans to sow some crop, as crimson clover or rye, so that next winter there will be a green cover to prevent leaching away of plant food and the washing of bare soil. These will also add fibrous matter and tend to prevent washing.



Doctor Burton's Prescription

By W. C. Kenton

"You seem to be enjoying poor health," said the summer boarder, coming upon his host seated in a rocking chair behind the morning glories, with a cushion at his back and one under his slippered feet.

"Yes," said Richard Ambler in a sort of half whine, "yes, I do have poor health. I ain't seen a well day for years. Some folks are born to be afflicted."

"What seems to be your trouble?" inquired the young man, repressing a smile.

"Well, I ain't decided whether it's my liver or my heart this time," said Mr. Ambler, picking up a patent-medicine almanac. "I've got the symptoms for a good many diseases, but some are worse than others."

"What does your family doctor call your disease?"

"Oh, he don't know anything about my case. I discharged him years ago. All he could talk about was exercise—exercise. As if I was able to exercise in my feeble condition. Since then I've been studying the case myself, and sometimes I think I see a shade of improvement. It's now time for my tonic," and he rapped loudly on the floor with his cane.

"What is it, Dick?" asked a faded, thin woman, coming from the kitchen, wiping the perspiration from her face. "Your medicine time? Well, here it is." She ladled out a dose from the tall bottle, but her husband interposed.

"You know I can't take that stuff, Hulda, without some orange juice or something to take the taste out of my mouth, and I need a cool drink. Maybe I could sup a little broth if you have it ready. I feel real faint."

"The broth isn't ready," said Mrs. Ambler. "I had to help Jimmy get the cows out of the corn, and the dinner isn't on the way yet. I'll bring you a glass of milk."

"Milk makes me billious," complained the invalid. "Maybe I can hold out a little longer if you hurry the chicken broth."

The boarder looked over the neglected fields and tumble-down fences back to where patient Jimmy Ambler was trying to plow corn in the weedy field, and then his gaze fell upon the clean dining room kept cool and dainty by Mrs. Ambler's vigilance. "I'll tell you what you need," he said at last. "My brother is a specialist, and I'll have him come out here and see you, if you say so. I should really be alarmed if I were you. I wouldn't take patent medicines, but get the advice of a real specialist. I don't want to boast about my brother, but some of the wealthiest people in Chicago consult him. Perhaps you have heard of Doctor Frederick Watson Burton."

"Is he your brother? I wish you would have him come out at once," said Mr. Ambler with much interest. "These one-horse doctors around here don't understand a complicated case like mine."

Dinner was hardly over before Mr. Ambler told his wife what the new boarder had said. "It is the chance of a lifetime, Hulda," he said, eating the last of the chicken breast and the dainty custard made specially for him. "I've felt for a long time that I was running down rapidly, but I didn't say anything."

"What will he charge?" inquired Mrs. Ambler.

"Oh, I don't know; but what difference does that make if he can help me? Not that I ever expect to be real well, but he might ease my suffering. Haven't you got some money laid by?"

"Yes, I have the money for the interest on the mortgage, and I wanted to get the children all fitted out for school before the term begins. Last fall it was so late before I could get their clothes in order. But if you want him, Richard, maybe we can scrape the money together somehow. I'm sure if he could cure you so you could do the farm work and take care of things right, nothing would be too much for him to charge. The children do the best they can, but they are too little for such hard jobs."

"I never expect to be strong," interposed Mr. Ambler hastily. "All I ask is relief from this pain. I'm willing to drag out my days helpless and unable to work, but I do hate to think I must be in misery always. I think I'll have to lie down now. I feel that distress in my heart coming on again."

When the great Doctor Frederick Watson Burton saw Mr. Ambler he shook his head ominously. He tapped his chest, felt his pulse, examined his tongue and inquired about his appetite, all the time making notes in his book. Mrs. Ambler listened breathlessly to the words that fell from his lips, and was glad when the suspense was over. Mr. Ambler answered all questions in a feeble tone, and lay back as if exhausted when the examination was over.

"What you nced is a change of scene—a complete change of scene," was his verdict. "While your case is not rare, it is interesting, and I shall take you with me to the Pacific coast at once. I have been called there in consultation, and shall take you. It will not cost you a cent to get there, as I shall watch the developments on the way out, and I think the distress you speak of will be relieved in a measure. I would not like to promise that you will be completely well—few patients with your complaint make a complete recovery—but I think you will be greatly benefited by the trip."

Doctor Burton had several conversations with Mrs. Ambler, which increased the anxiety Mr. Ambler felt about himself and the importance of his position in the household, and at the end of three days the oddly assorted pair started from Ohio to the West. Mrs. Ambler wanted to take her interest money out of the bank to pay the doctor and provide her husband with spending money, but Doctor Burton would hear to nothing of the kind. "You must let me manage the case my own way," he said.

In less than a week Mr. Ambler found himself breathing in the fresh air of the Pacific Ocean and enjoying a welcome rest after days of jolting about in cars.



"'You'll have to pay or get out at once'"

Doctor Burton would not give him medicine, saying that rest and change were better than drugs. He paid a week's board for his patient, and then disappeared from the latter's gaze as completely as if he had dropped into the sea.

"Mr. Ambler, I'll have to trouble you with this little bill," said the landlady where the doctor had installed him. "You have been ordering dainties and extra food, so that it has amounted up to eight dollars. I never allow things to run more than a week."

"I haven't any money, Mrs. Shell," said Mr. Ambler. "Doctor Burton brought me here and said it wouldn't cost me a cent to come. I don't know where he is at present, but he surely intends to come back and look after me. He wanted to watch the symptoms of my disease."

"And you mean to say that a man who eats as much as you do expects any one to believe you are sick?" said the woman scornfully. "It didn't cost you a cent to get here, according to your own statement, but you surely don't expect to loaf after he's been kind enough to get you here. You'll have to pay or get out at once. And remember, I can have you arrested for trying to cheat me if you don't settle. I'm short of help, and you can take a job in the kitchen if you are honest. In that way you can work out your bill until you find something else to do."

"I am not able to work," said Mr. Ambler with dignity. "I have heart trouble."

"Any man who makes a glutton of himself and doesn't take exercise is likely to have heart trouble," said Mrs. Shell scornfully. "Take your choice quickly. I have no time to waste."

Mr. Ambler considered it beneath his dignity to argue the matter, so at the end of ten minutes he stood satchel in hand rather dazed as he wondercd what he would do for dinner. He decided to try asking for food, but after two or three rebuffs he gave up the hope of getting sympathy from the busy, bustling people. Every one offered him work instead of food, and at one o'clock he was well-nigh discouraged. He was hungry as a wolf, and remembered regretfully how he had dallied over his berries and chop at breakfast, making a long, leisurely meal off the good food.

"I guess I'll have to try your work, Mrs. Shell," he said humbly, presenting himself at the back door of the boarding house. "I'm very faint and weak, but I'll do what I can."

"I thought you'd come to it," remarked the landlady grimly. "Scrub off the walks and porches first thing, and then I'll have something else ready. When you get that done I'll have the cook lay you out something to eat, unless you've had your dinner."

Every muscle rebelled, but Richard Ambler knew he was dealing with a woman who would have no half-way measures. How he did long for the morning-glory-hung porch as he toiled over the front steps and porch. If only Hulda were there to put a pillow behind his aching back and bring him some cool milk! But instead of the thin form of his wife appeared the portly landlady to point out certain spots that needed extra scrubbing. He felt sure it must be five in the evening when he was summoned to his dinner, but it was only one-thirty. The boarders had all left, and there were mountains of dishes waiting to be washed.

"I can't eat—" he began, as he saw the potatoes in their skins, the boiled meat, the stale pie and black coffee the cook had set out before him. It had been an unusually busy day, and little of the regular dinner remained in the pots and kettles. Suddenly he remembered that he could eat anything and everything, so hungry was he, and he attacked the hearty food with a will.

"You'll have an attack of heart trouble," predicted the cook, as she watched him stow away the food. "Hurry up! I want you to wash these dishes."

After dish washing it was peeling potatoes for supper and then more scrubbing. The invalid remembered how once Hulda had asked him to shell peas for dinner, but rcpented before she brought them to him, so loudly had he groaned. He wondered what she would think if she could see him toiling now in his feeble condition for plain food for supper and to pay a board bill. He determined to beg or borrow a stamp somewhere to write home that very night, but when night came he tumbled into bed too tired to think of writing or anything else.

When Mrs. Ambler's answer to her husband's plaintive letter arrived, it was short and to the point. "The doctor said I must not send you money to come home on," she said. "He wants you to stay there a year at least." Then followed some news of the neighborhood he had left, and the single page was full.

"I'll never go back!" said Richard Ambler with more energy than he had shown for years. "It was only a plot to get rid of me. I'll show them all that I can live without them."

For a year he stubbornly refused to write home. His wife and the children sent letters occasionally, but the only way they knew anything of him was that the letters were not returned. He must be getting them, whether he wrote or not. Mr. Ambler was glad to hear from the home folks, but he still declared he would never go back again.

At first it was hard for the indolent man to stick to his tasks, but hunger drove him to work. He had no time for medicines, even if he could have afforded them, and he was rapidly learning that healthy toil is the best tonic in the world. He soon left his kitchen work for more congenial and better-paying labor, and for once in his life enjoyed the pleasure that comes from thrift and prosperity. Money was plentiful in the bustling town, and workers in demand, so he had little trouble in making much more than enough for board and clothes.

"One thousand dollars!" he said, when he deposited his month's wages one Saturday night. "Just enough to pay off the mortgage back home. I've a notion to give Hulda a surprise by going home one of these days and squaring things up. I wonder what the neighbors would think. They always said I was shiftless—the meddling lot. Maybe they were right, though. I wish I had the money I spent for patent medicines—no, it was poor Hulda's money. The poor girl never complained, but always did the best she could. It would be only fair if I should do something for her."

A great wave of homesickness seemed to engulf him, but he resolutely put it aside. "I won't go home until I can go right," he said firmly. "I won't touch a cent of that thousand dollars, but I will take home some presents and go in good clothes." From that moment every thought turned toward the home he had been lured from nearly three years before. His waking hours were filled with plans and his nights with dreams of the shabby farm he had inherited well stocked and fertile from his father. He would not spend a cent for anything but actual necessities, and when he concluded he had enough for all expenses he took the first train for the East.

His heart beat rapidly as he walked up the trim path bordered with late autumn flowers to his old home. He took little note of the clean fields, new fences, fine stock and well-kept lawn, so anxious was he to see the dear, familiar faces. His wife came to the door, but she did not recognize him, so he asked to have supper, making some excuse for being there at that hour.

"We don't keep boarders," explained

[concluded on page 17]

The Housewife

Soups Without Meat

BY ELMA IONA LOCKE

To one who has not tried it, it is surprising how small an amount of material is required to make a nutritious, wholesome and appetizing soup. So many delicious and savory soups may be made from vegetable products that there is no real reason for making the rich, heavy dishes made from meat, which in hot weather at least should certainly be avoided, especially as they are in reality less nutritious than many of the vegetable soups.

Variety is added by the skilful use of the many different flavorings and colorings which may be employed. Among the variety of seasonings may be mentioned parsley, thyme, summer savory, sweet marjoram, tarragon, and red pepper; of spices, cloves, allspice, cinnamon, nutmeg, mace and black and white pepper, as well as bay leaves, the peel and juices of lemons and oranges, the seeds of celery when the stalks are not at hand, etc.

The juice or sifted pulp of tomatoes gives a red color to the soup; a handful of spinach, parsley or the green leaves of celery, pounded, and added five minutes before taking up, gives a green; and burnt



EMBROIDERY HAT. NO. 3

brown sugar, called caramel, is used to give a brown color. In white soups none but white vegetables are used, and rice, pearl barley, vermicelli or macaroni are used for thickening. Rolled oatmeal is nearly, if not quite, as nice as rice in soups.

If you happen to get the soup oversalted, add one teaspoonful of sugar and one tablespoonful of vinegar.

Cream of Asparagus Soup—Wash a bunch of asparagus, cut into small pieces, put into one pint of boiling water, and boil gently for three fourths of an hour, then rub through a colander. Put one quart of milk on in a double boiler, and thicken with one large tablespoonful of butter rubbed with two of flour, stirring until smooth; if at all lumpy, strain, then add the sifted asparagus with the water in which it was boiled; season to taste, and serve hot.

Cream Barley Soup—Boil one cupful of pearl barley in two quarts of water until tender, then strain off the water, of which there should be about three pints; add to it a small portion of the grains, salt to taste, and just before serving add one cupful of whipped cream, or the beaten yolk of an egg may be used if preferred.

Carrot Soup—Boil one quart of thinly sliced carrots and one head of celery in three or four quarts of water for two hours and a half, then add one half cupful of rice, and boil an hour longer. Season with salt and pepper, and add one small cupful of thin sweet cream. The soup may be put through a colander if preferred.

Cabbage Soup—Cook one pint of chopped cabbage in three pints of water for thirty minutes. Skim out most of the cabbage, leaving about one small cupful, and add one cupful of cream or milk; season with butter, pepper and salt.

Cream of Cauliflower Soup—Cook half a cauliflower in boiling salted water about twenty minutes, cutting off the little flowerets and using none of the stalk. Boil the water down to about one pint, add one pint of milk, and thicken with one tablespoonful of fine whole-wheat flour; season with salt and white pepper and add one half cupful of sweet cream, or a little butter; boil up once, and serve.

Cream of Celery Soup—Put one head of celery, chopped fine, in one pint of water, and boil until tender, then add it to one pint of milk which has been thickened with one tablespoonful of flour and boiled ten minutes; add one tablespoonful of butter, and season to taste. Strain, and serve at once.

Bean Soup—Cook one pint of soup beans in two quarts of water until well done; slice fine a very small onion, and add; season with butter, pepper and salt, pass through a coarse sieve, add one half cupful of sweet cream, and serve hot.

Corn Soup—Grate one pint of green corn; break the cobs, and put on to boil in enough cold water to cover them; boil thirty minutes, and strain. There should be about one pint of this water, and when it boils again, add the grated corn, and cook fifteen minutes. Season with salt, pepper, one teaspoonful of sugar, and add one pint of boiling milk (part cream). Thicken with one tablespoonful of flour well cooked in, and serve.

Corn-and-Pea Soup—To one cupful of cooked green peas which have been rubbed through a colander add one cupful of stewed green corn. Take a few spoonfuls of nut butter, add to it, gradually, sufficient water to make a rich cream, add this to the corn and peas, make of the desired consistency, season to taste, let boil up once, and serve.

Vegetable-Oyster Soup—Scrape and slice one quart of the oysters, put on to cook in one quart of water, boil slowly until very tender, add one pint of milk, salt to taste, and thicken with one or two spoonfuls of flour; add one cupful of thin sweet cream.

White Soup—To two quarts of water add three tablespoonfuls of rice and one cupful of vermicelli broken fine, and simmer until tender. Just before serving add one cupful of sweet cream, one teaspoonful of salt and one half teaspoonful of celery salt. Beat the whites of two eggs to a stiff froth, put in the bottom of the tureen, and pour the soup over them.

Mixed-Vegetable Soup—Chop fine three carrots, three turnips, one small onion and one very small cabbage, and put on to cook in boiling water, and simmer for an hour. Add one pint of stewed tomatoes and a bunch of sweet herbs, and boil for twenty minutes. Rub all through a coarse sieve, add one tablespoonful of flour beaten up with two of butter, pepper and salt to taste, one teaspoonful of sugar and one half cupful of cream, and let boil up once.

Tomato Soup—Stew one quart of tomatoes in one quart of water until soft; add one teaspoonful of soda, allow to effervesce, then add one quart of boiling milk, a little rolled cracker, and season to taste.

◈

Checker-Board Pillow

The checker-board pillow illustrated on this page is not only attractive and pretty, but quite simple and easily made. This pillow is made of two colors of ribbon—gold and purple—the ribbon being from one and one half to two inches in width.

To make this pillow, take as a foundation a square piece of any soft material the size of the pillow you wish to make. Then take one color ribbon—the purple, for instance, as in this design—and cut into strips the length of the square, and sew at each end. Continue this until you have the entire surface covered with one color ribbon, or the purple, putting the strips as closely together as possible. After the square is completely covered with the one color ribbon, take the other color—gold in this case—and cut into strips the same length as the purple, and weave the same over and under the purple, sewing at each end the same as the purple, thus making the checker-board effect. This makes a very handsome pillow, and in these colors one that will last a long time without being soiled.



CHECKER-BOARD PILLOW

The pillow is then finished with a mercerized back and ruffle of the same material, with a row of narrow gold ribbon on the edge of the ruffle, which is of purple. There are several different ways of finishing the pillow, one being with a cord containing the colors in which the pillow is made, and another a double ruffle of ribbons, one being wider than the other and of the same color as the body of the pillow.

About seven yards of each color ribbon are required for this pillow. If ribbon is used for a ruffle it will require about five yards of each color. C. O'B.

◈

A Jumper Waist

This waist may be seamed or buttoned up the back. The pattern allows for only a small seam, so if buttoned, the sides must be faced in. The front piece of the belt has a buttonholed edge; the sides of the band are turned in and hemmed, a line of cord covering the stitching. There is a bit of embroidery across the back of the belt. This belt will be pretty for wear with any waist.

A Butterfly Hat

A hat, to be made of white or colored linen, is braided with white coronation cord, and the embroidery is in eyelet and solid work. A muslin plaiting edged with lace is used under the brim. In sewing on the cord, take three stitches over the fine parts and one through the under side of the heavy part. Finish the ends of the cord by pulling them through the linen, and fastening on the under side. Use No. 80 cotton for sewing the cord, and two threads of embroidery cotton for the eyelet and solid work.

Rules for using perforated patterns are given on the boxes of stamping paste. For light-colored goods use blue paste; for darker goods use black paste.

◈

Caramel Custard

This is a pleasant variation from the ordinary baked custard, but involves the same underlying principle in its preparation, namely, milk and eggs, which, when used in combination, should always be cooked at a low temperature. Why do so many people serve wheyed custards? There is not the slightest need of it. Put one half cupful of sugar in a smooth graniteware sauce pan, place on the front of the range, and stir constantly until melted and of the color of maple sirup. Care must be taken that the sugar does not adhere to the sides of the pan or spoon. Add the sirup gradually to four cupfuls of scalded milk, which should be in a double boiler, just at hand. The sirup has to be added gradually or the milk will bubble up and flow over, on account of the high temperature of the sugar. As soon as the sugar is melted, add the mixture very gradually, while stirring constantly, to five eggs, beaten slightly; then add one fourth of a teaspoonful of salt and one teaspoonful of vanilla. Strain into a buttered mold, set in a pan of hot water, and bake in a slow oven until firm, which may be readily determined by running a silver knife through the custard; if the knife comes out clean the custard is done. Care must be taken that the water surrounding the mold never reaches as high a temperature as the boiling point, for in this event the custard will whey.

You notice, I say, beat eggs slightly. Eggs are added to all custard desserts, not to give lightness, but to give body; therefore they should not be made light by beating in much air. Never neglect to strain a custard, for does any one like to come in contact with the spiral spring of an egg? Chill the custard, turn from the mold on a serving dish, and serve with caramel sauce made as follows:

Caramelize one half cupful of sugar just as for the caramel custard; add gradually one half cupful of boiling water, and let simmer for ten minutes; then cool.

F. M. L.

◈

Tests for Mushrooms

The mushroom gatherer will soon be abroad in the land, and the papers will chronicle the usual number of cases of mushroom poisoning. Under the above caption the "Lancet" interestingly declares that many popular tests for determining the wholesomeness or otherwise of a mushroom are based on color, odor, taste and texture; on the presence of rose-colored lamellæ or a milky juice; on the situation in which the fungi grow, and on the action of the mushrooms on various substances, including gold and silver coins, milk and onions.

Thus, according to one popular notion, mushrooms having a blue, violet, green or red color are unfit for food; but this test would exclude many wholesome fungi, including the green Russula and the green Clytocybe. It has been said that only mushrooms which do not change color when cut are good to eat, but some species of Boletus, and many other mushrooms which change color, are perfectly harmless, while, on the other hand, Amanita muscaria and some other fungi which do not change color when cut should be avoided.

Professor Labesse points out that the presence of an agreeable odor is not an infallible test of a good mushroom, as a species of Amanita is especially dangerous in spite of its pleasant odor. There is a dictum among certain amateur gatherers that a good mushroom has a grateful taste. This test is useful in many cases, but not in all.

As regards texture, it is generally regarded that compact, brittle mushrooms, with a dry skin, are edible, but Professor Labesse considers this to be a mere prejudice, as the eating of certain species of Russula would seriously indispose any one placing confidence in these characters. Mushrooms with rose-colored lamellæ are usually considered to be edible, but this is a false notion, some species of Volvaria and other poisonous fungi possessing this character. Mushrooms with a milky juice are regarded as dangerous by some collectors, but this rule must not be followed too literally, as many excellent members of the genus Lactarius would thereby be excluded.

The situation in which mushrooms grow is a very uncertain criterion of edibility. Thus, it would be dangerous to regard all mushrooms growing in meadows, open fields and roadsides as good, since many suspected kinds grow in such places. On the other hand, mushrooms growing in coniferous woods and under trees generally have been condemned, but the succulent Lactarius deliciosus grows in coniferous woods and the edible Pholiota grows under poplars, while species of Helvella and Hydrum, which flourish in shady woods, form a wholesome dish.

The blackening of a gold or silver coin or ring does not prove a mushroom to be poisonous; the blackening is generally due to more or less decay in the mushroom, as fresh mushrooms, whether poisonous or not, fail to blacken these metals. The curdling of milk by mushrooms is another property which has nothing in common with toxicity, the cause of the curdling being attributable to the presence of an acid or a ferment. An old custom consisted in dipping a white onion or a clove of garlic into the cooking vessel containing the mushrooms and noting whether the latter turned brown or not. The presumption that only noxious mushrooms are turned brown by this treatment is not justifiable, since some non-poisonous varieties do change color in this way, while some poisonous varieties do not.

There is often a risk taken in eating mushrooms, and those who do not wish to incur the risk are reminded by Professor Labesse of the method adopted by Gérard in 1850. He boiled the mushrooms for some time in salt water, threw away the water, and then exposed the mushrooms to the air. He fed his family for nearly a month upon all kinds of poisonous mushrooms treated in this way, and found them to be nutritious, though less palatable than mushrooms cooked in the ordinary way. Professor Labesse suggests that not more than one mushroom in ten is poisonous, and that the best test consists in rejecting those which have a ring at the base of the stipe. Deadly mushrooms as a rule possess a ring, or annulus, consisting of the remains of the velum partiale which covers the young mushroom and is fractured during growth. In order to apply this test the mushrooms must be gathered with care.

Unfortunately in rejecting mushrooms possessing this character some excellent varieties are rejected in addition to the commonest poisonous varieties. Amateurs should know the characters of the mushrooms which grow in their neighborhood, and restrict themselves to certain kinds.



EMBROIDERY JUMPER, NO. 4—BELT, NO. 5

PRICE LIST

Butterfly Hat, No. 3—Perforated pattern, thirty-five cents; stamped on pink, lavender or white linen, sixty-five cents; cord and embroidery cotton, twenty-five cents.

Jumper Waist, No. 4—Perforated pattern of waist and belt (32, 34 or 36 inch bust), fifty cents; cord and embroidery cotton, thirty-five cents.

Belt, No. 5—Stamped on white linen, twenty-five cents; cord and cotton, fifteen cents.

Stamping paste (blue or black), ten cents a box.

The Pieced Quilt

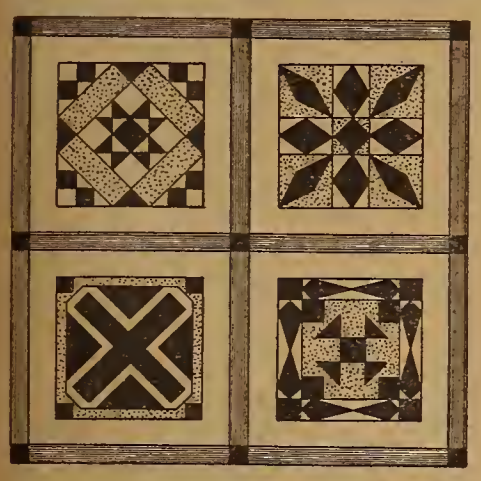
BY MRS. MERLE SHAFFER

At a meeting of the ladies' aid society recently the question of piecing quilts and comfortables was being discussed by a group of ladies whose nimble fingers were engaged in that kind of work for the society. One of the ladies said, "For my part, I do not believe in piecing quilts or making comfortables, for I think that woolen blankets make a much nicer covering than comfortables or quilts."

Well, I have nothing to say against the blankets, other than that to furnish blankets for covering for three or four beds or more costs more than the average family in moderate circumstances can afford, so what I am writing is for the benefit of those who use quilts on their beds.

In a family where there are several children there are scraps and remnants left from their clothing. Save these pieces and put them in sacks. I use paper flour sacks, and label each sack thus: "Calicoes," "Bright-Colored Woolens," "Dark Woolens," etc.

These cold, stormy days are just the time to get down our piece bags and look them over. Decide on some plain pattern, and cut out the largest blocks first.



SOME STRIKING DESIGNS FOR THE PIECED QUILT

I do not think it economy to cut large pieces of cloth into small pieces, to sew up again into some intricate pattern that takes a great deal of time and patience.

Last winter I pieced a four patch out of pink and dark blue calicoes, and also pieced a lining out of my largest scraps. This I did all on the machine, and I had a nice new comfortable without much cost, just the cotton batting and the yarn to tie it. I also pieced a four patch using small bright woolen pieces for the blocks, which were set together with plain blocks of different colors. This was lined with gray tennis flannel and tied with scraps of bright-colored yarn that I had left from a slumber robe several years ago, and I had another nice warm comfortable without much cost.

After cutting what blocks you can, one can make a pretty crazy quilt by basting the small, irregular pieces on a square block and working each patch with silkotine or even stitching on the machine.

One will be surprised, when one gets started in the work, how many nice quilts can be made from the accumulation of scraps that are good for nothing else.

If you have plenty of bedding of your own, maybe you have a sister, cousin, friend or even some one in your neighborhood who is a busy mother, and who would be more than pleased to receive a nice quilt or comfortable, or even a pieced top, for one would be acceptable. I do not mean a fancy affair, just a good, substantial one. Or perhaps you know of some little children who do not know the meaning of a good, warm quilt on their bed.

There are so many ways of scattering sunshine, even if it is only through a bedquilt.

◈

Chicken Patties

The ingredients are a few mushrooms, the remains of a chicken and several cold biscuits.

Pick the bits of chicken from the bones; add the mushrooms; chop or grind; season with salt, pepper, five drops of onion flavoring and five drops of celery flavoring. Cook in one cupful of milk; add one spoonful of flour made into a paste with butter; cook all until the flour thickens the gravy.

With a sharp knife cut out the centers of the biscuits, rub them over with milk, and set in the oven to brown; then remove, fill with the mixture, and you have the finest kind of "patties" at the least possible cost. E. L. M.

◈

Old Blankets Still Useful

In order to utilize old blankets which have become thin from constant use, I baste two together and then cover them with a pretty flowered silkoline or calico, which transforms them into very desirable light-weight quilts that can be washed without becoming bulky, as most ready-made quilts do. A. S.

Home-Made Knife Sharpener

The handiest thing I have in my kitchen is a knife sharpener, which is made as follows:

Get a piece of wood ten inches long and three inches wide, six tacks and one sheet of No. 0 emery paper. Cut the paper in three pieces lengthwise, and turn over the ends of the board, tacking it there, to hold securely.

By drawing over this little board a few times, any blade, from a carver to the smallest pocket knife, may be given a good sharp cutting edge.

When a layer of paper has lost its usefulness, slice it off with your knife, and there is another ready for use. When all are used, buy a new sheet of paper and tack on as before. E. H. C.

◈

A Seasonable Hint

Recently I saw in use a very good idea for the preservation of screen doors. Where there are small children or pet animals to push against the doors, the lower half of the screen usually is soon either torn out or sadly bulging in appearance. The door I saw had the lower section of screen covered neatly with wire netting of about one-inch mesh, and the moldings then replaced around the edges. As the netting was painted the same color as the screen, it was hardly noticeable, and the door was made very much more serviceable. Elma Iona Locke.

◈

Whipped-Cream Pie

Dilute three fourths of a cupful of heavy cream with one fourth of a cupful of milk, and beat until stiff, using an egg beater; then add one third of a cupful of powdered sugar and one half teaspoonful of vanilla. Unless the cream is very thick, do not add the one fourth of a cupful of milk.

Bake the pie crust in the ordinary way, fill in the whipped cream, and the whipped cream pie is ready for serving.

◈

Apple-Sauce Cake Without Eggs

Stir into one cupful of sweetened apple sauce one teaspoonful of soda. Then cream one half cupful of butter with one cupful of sugar and one half teaspoonful of salt. Beat this well into the first mixture, adding one cupful of raisins or currants, or both mixed if one desires. Spices are used according to taste. Last of all stir in one pint of flour. Bake in a loaf in a slow oven. W. C.

◈

Singing Birds

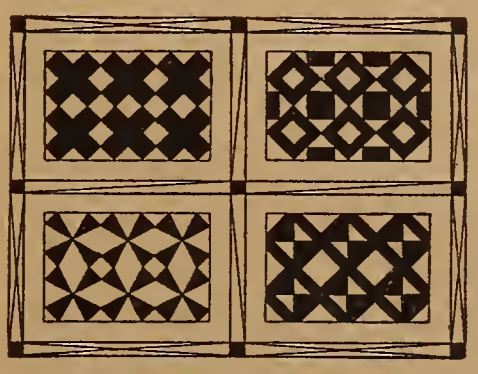
A friend raises birds—canaries and linnets—for which she finds ready sale at the bird stores in a large city. Redbirds and parrots sell well, too. It takes but a few minutes each morning to care for them. This is nice work for those with little time or strength to spare.

M. W., Iowa.

◈

Preserving Soles

We live on a farm, and have several children, so the amount we have to spend for shoes alone amounts to quite a good deal. As soon as a pair of every-day shoes comes into the house we put them on an iron last and drive a dozen or more little shoe nails into the soles, hammering them down well, so there will be no danger of injury to the foot. These little nails prevent the sole wearing out, and



QUILT BLOCKS OF TWO COLORS DESIGNED FOR USE

in a year save a great deal of money that would necessarily have to be expended for new shoes. It will pay any one to invest in a set of iron lasts.

Mrs. Ida Richards, Arkansas.

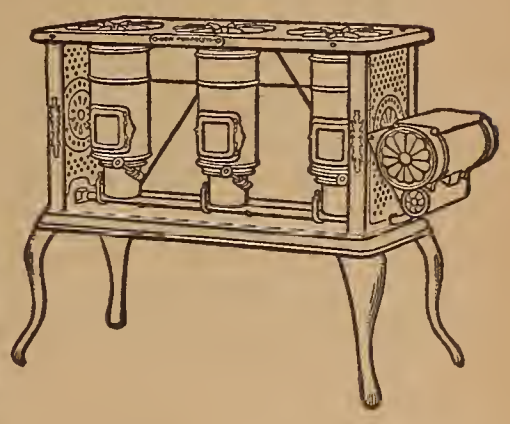
◈

To Remove Rust and Mildew

I have used oxalic acid for removing rust, mildew, tomato stains, etc., and it has never failed. Get it at any drug store, apply, and let it remain on the dampened goods until the stain is removed. Get either the powdered or the crystals. Care must be taken to rinse the material very thoroughly after the acid has been used. R. S. M.

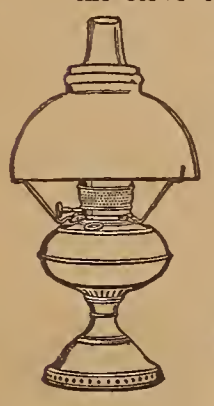
Put This Stove in Your Kitchen

It is wonderfully convenient to do kitchen work on a stove that's ready at the instant wanted, and out of the way the moment you're done. Such a stove is the New Perfection Wick Blue Flame Oil Cook-Stove. By using it you avoid the continuous overpowering heat of a coal fire and cook with comfort, even in dog-days. The



NEW PERFECTION
Wick Blue Flame Oil Cook-Stove

is so constructed that it cannot add perceptibly to the heat of a room; the flame being directed up a retaining chimney to the stove top where it is needed for cooking. You can see that a stove sending out heat in but *one* direction would be preferable on a hot day to a stove radiating heat in *all* directions. The "New Perfection" keeps a kitchen uniformly comfortable. Three sizes, fully warranted. If not with your dealer, write our nearest agency.



The Rayo Lamp is the ideal lamp for family use—safe, convenient, economical and a great light giver. If not with your dealer, write our nearest agency.

STANDARD OIL COMPANY
(Incorporated)

CREDIT to the NATION
BUY NOW PAY LATER

WE FURNISH HOMES COMPLETE ON EASY CREDIT TERMS ANY-WHERE IN AMERICA. Write for our Magnificent Catalogs FREE.

CATALOG No. 42—Shows the most beautiful line of Home Furnishings ever offered. Furniture of all kinds, Carpets, Rugs and Draperies shown in exact colors. Sewing Machines, Refrigerators, etc.

CATALOG No. 52—Shows a complete line of our wonderful "Plymouth" Stoves and Ranges.

CATALOG No. 62—Illustrates our Enormous line of "Superior" Baby Carriages and Go-Carts.

These Catalogs are ALL FREE. Send postal for the one you want.

Any article selected from our Catalogs will be shipped to you at once. Pay on easy credit terms to suit your income. You have full use of the Goods while paying for them. Our credit is free. No interest to pay and we guarantee to sell you "Goods of Quality" 30 to 50 per cent. lower than your local dealers or any other concern.

Our Five Great Stores, the finest and largest in the country, and our mammoth Pittsburgh Mail Order House use a tremendous volume of merchandise. This enormous outlet enables us to sell goods at a very small profit above actual cost of manufacture. Millions of dollars are invested in our institutions. Ask any bank in the U. S. as to our reliability.

OUR GUARANTEE—We ship you any article or outfit on approval. If not perfectly satisfactory return the goods to us at once and we will refund your money and pay transportation both ways. We take all the risk. Send us $2.25 cash and we will ship you at once our beautiful "Sincerity" Brussels Rug, size 9x12, price only $14.95 and then pay us $1.00 a month until paid for.

Spear's Sincerity Brussels Rug is the best value in a floor covering that has ever been offered at so low a price and on such liberal credit terms. This High-Grade Brussels Rug is extra heavy, made of all-wool yarn, closely woven scroll pattern of green, red and tan fast colors.

Send us $1 CASH and 50c a month and we will ship you at once this fine Sylvan Morris Chair, constructed throughout of thoroughly seasoned oak, very massive, and strongly built. Frame is beautifully carved in dragon design. Arms are broad and heavy. Chair is upholstered in black sylvan leather, the nearest approach to real leather. The broad back is diamond tufted, strapped and buttoned. Fitted with brass rod and ratchet; back is adjustable to five positions. Seat has ruffled front and contains our guaranteed oil tempered springs.



PRICE $5.95
$1 Cash
50c month



SPEAR & Co.
PENN AVENUE
PITTSBURGH, PA. U.S.A.

$2.25 Cash
AND $1.00 A MONTH BRINGS THIS RUG TO YOU AT ONCE

Send for Catalog

What Does Your Washing Cost?

Cut the expense in half by using the Syracuse "EASY" non-friction steel washer. Have heating attachment with it if you wish to do away with boiler and range. Our free book, page 22, tells you how to save ½ the soap. Ask for it now. Attractive proposition for agents.

DODGE & ZUILL
284 C Dillaye Bldg., Syracuse, N.Y.



ASK US HOW WE Give this Chiffonier and over 1200 other nice things for the home with orders for groceries—tea, coffee, baked pork and beans, rice, soaps, pure foods, extracts, perfumes, etc. Send for Catalog telling "How the Housewife Can Furnish Her Home Without Cost" and "How the Housewife Can Save $10 every few weeks." A postal will do.
Crofts & Reed Co., Dept. 197 Chicago.





GOLD COIN Stoves
Direct From Factory
Freight Paid
Save You $5 to $20

If you are dissatisfied at any time during one year, send the stove back at our expense.
Send for Free Catalogue to-day
THE GOLD COIN STOVE CO., 8 Oak Street, Troy, N. Y.



How Much Interest is Your Money Earning?

We issue CERTIFICATES OF DEPOSIT bearing FIVE PER CENT INTEREST, per annum, from date, for any amount from $1.00 upwards and mail check or new certificate for the interest every three months.

BANKING BY MAIL WITH US IS SAFE AND SATISFACTORY. UNCLE SAM IS A TRUSTY MESSENGER.

Currency should be registered but checks or money orders may be sent by ordinary mail. A request for descriptive folder does not obligate you in any way. Do it now. All business with us is strictly confidential.

The BEGGS BANK Under State Supervision Columbus, Ohio.



PALMS OF STRANGE PROPORTIONS



THE WINE, OR HONEY, PALM



IMPOSING PALM-BORDERED DRIVE

California's Attractive Palms---By Charles Alma Byers

One among the first things to attract the attention of the Easterner sojourning in California is the profusion of palms and the uses to which they are put. In every dooryard and every city park, on every fruit farm and stock ranch, and in fact everywhere in the southern part of the state, one finds some variety of the palm tree. Next to the flowers, for which California is famous, the palm is to the landscape gardener of paramount interest, and that it is deserving of the consideration to which its use attests is readily realized by all lovers of beautiful landscape work.

One of the accompanying illustrations shows an imposing carriage entrance made of a variety of palms that is quite popular for this and other purposes—a variety that grows to a height of twenty-five and thirty feet. Because of its growing so slender, however, it is planted only as an ornament, and for driveways it is considered one of the best, since its limbs do not branch out so as to obstruct.

For shade purposes the palm most popular in the state is known as the wine, or honey, palm (Jubæa spectabilis), from Chile, South America. This, because of its far-reaching branches and its continual greenness, is also one of the showiest for lawn and park uses. The palm gets its name from the honey-like sap which is extracted by the natives of Chile, and is used, when boiled down, as an article of food. A single plant sometimes furnishes nearly one hundred gallons of this sap.

To give the Latin names of some of the other palms extensively used for landscape work in California, mention might be made of the common fan palm, called Washingtonia filifera; the Mexican species, Washingtonia robusta, and the Washington Sonoræ. The last named is becoming particularly popular with gardeners, on account of its gradual improvement, instead of the reverse, with age. The careful study given the various species has made the palm indispensable to the landscape gardener.

The palm is a peculiarly proportioned plant. It has a trunk that seems out of all proportion to its fan-like limbs or leaves, and for roots it possesses only small fibrous shoestrings—no main or tap root. One of the photographs here reproduced is of an unrooted palm about thirty inches in diameter, and as will be observed, the roots are no larger than angleworms, and are of much the same color.

What Can a Young Man Do?---By Felix Faxton

Hon. Frank West Rollins, the originator of the Old Home Week idea, is one of the warmest exponents of rural life in our country. He is the author of a number of books, the most recent of which is one entitled "What Can a Young Man Do?" In this book we find Mr. Rollins saying this in regard to the rewards of farming:

"While farming does not promise the largest rewards in the way of wealth or fame, it offers compensations that may be as attractive and satisfying. A competent farmer with a good farm is assured of a comfortable living, and can win a moderate fortune. He has the privilege of constant association with his family. He enjoys the greatest degree of personal and business independence. His products are articles of universal use. If one market will not take them, another will. He has no occasion to fawn upon clients or cringe to magnates. Commercial panics rarely affect him. His goods are still necessary; and while their value may be less, the cost of production is often more than enough lower at such times to make up the difference. In fact, his margin of profit is often greatest in years of depression. While farm life is laborious, there is often variety about it that contrasts pleasantly with the monotony of a life spent at a bench or the desk. To the lover of home, farm life is delightful, in that it is a constant process of home development. Each tree and vine acquires a personal value to him far greater than its worth in money. All the domestic animals are his pets and friends. A well-kept farm is a bit of landscape gardening that helps to make home beautiful, and is a tribute to the character of its owner."



HON. F. W. ROLLINS

Mr. Rollins has a good many other things to say in regard to the advantages of farm life, and in referring to the present conditions of agriculture in our country we find Mr. Rollins quoting from Mr. James J. Hill, the great railroad magnate, who says: "Agriculture, in the most intelligent meaning of the term, is almost unknown in the United States. There are three essentials to any agriculture worthy of the name. The first is rotation of crops. The second is the more liberal use of fertilizing material. The third factor in improvement, better tillage, is most interesting of all. A population of forty-five million people in Japan is supported on nineteen thousand cultivated square miles, aided by sea food products. This is because cultivation in Japan is truly intensive—that is, it is no longer even highly developed farming, but general market gardening."

Hundreds of our American farmers are discovering the value of a few acres of ground devoted entirely to the products of the market gardener. Vegetables and berries are, or can be made, wonderfully profitable crops. The best evidence of this is the yearly increase in the number of farmers who are making a specialty of just this kind of work.

Mr. Rollins has been governor of New Hampshire and a United States Senator from his native state of New Hampshire. He is now a banker doing business in Boston, but retaining his residence in Concord. His outlook on life has been so wide and his experiences so varied that his opinions are entitled to consideration. He believes in the farmer and in the farmer's vocation. He believes that the agricultural value of our country has not yet been developed, and that the young man who adapts his farming to our modern conditions and farms in the most intelligent and scientific way will hardly fail of success. He is too wise to offer this success without a good deal of hard work, and in his book "What Can a Young Man Do?" Mr. Rollins has nothing to offer to the idler. He who would win success in any walk of life must pay the price, and that price is comprehended in the one short word—work.

The Old-Time Family Album---By Maurice Meredith

"That? Oh, that is a photograph of my grandmother taken soon after they first began taking photographs, and they didn't make 'em so good as they do now. Ain't she dressed funny? And look at them big hoop earbobs she has on. There's another picture of her farther over in the album, with some earbobs that dangle down most to her shoulders. Everybody wore earbobs then, and even when I was a girl, about the first jewelry a girl bought for herself after she got to earning money was a pair of earbobs. I know that I did. I earned my first money braiding straw in a hat factory. Lots of the farmers' girls used to go to the hat factories and braid straw when I was a girl, and we made good pay at it. I remember— Oh, that? Why, that is my mother in her wedding dress. It was a flowered swiss dress something like the organdies that they wear nowadays, only it was stiffer and the flowers in it were big as a dinner plate. If the picture showed the whole figure you would see that she has on huge hoop skirts. Of all the silly fashions that normal vanity ever started, I do think hoop skirts was the beateree. I had a pair about five yards around, and the way they cut up sometimes on a windy day was scand'lous, and there wasn't a door in the house big enough for me to walk through without them hoop skirts tilting up a good deal. No wonder the ministers preached sermons ag'in 'em. I know that I took my last pair and made them into a curious kind of a basket for papers. You twisted pieces of the hoop up into a kind of a figure eight shape, and sewed them together into a basket to hang on the wall, and painted the whole thing green. Every house used to have a paper basket of that kind, and we used to make all sorts of house ornaments then that we never make now—horticultural frames of seeds and corn, hair wreaths, shell boxes and frames, feather and wax flowers that were about as much use as lots of the things they make nowadays, and— That? He is the preacher that married me and my husband, and he looks the preacher all right, now doesn't he? See how he has his hair roached away up on top of his head and then combed flat in front of his ears. And look at that black stock he has on! And see how his shoulders slope in his coat. Tailors didn't pad up men's clothes the way they do now. You see he had his picture taken with his Bible under his arm and his Sunday-go-meeting look on. Land! Doesn't he look as if he hadn't a friend on earth or in the heavenly places? He married a widow in our village with six children, and then she presented him with six of his own, and he had a salary of about three hundred a year and a house to live in. The folks used to carry 'em food stuff, and we'd have a couple of donations a year and get rid of a lot of stuff we didn't want, 'spesh'ly baby clothes, for he was always needing them.

"That is a photograph of my Uncle Moses and my Aunt Nancy. Aunt Nancy was about as pretty as a hippopotamus. She used to say herself that she was so homely she couldn't sleep at night, but had to get up and walk around once in a while to rest herself; but of course she was just joking. But she was a dreadful good woman. I've noticed that your out-and-out homely critter is apt to be real good. But I don't know. Seems to me I'd rather of been a little bit bad and better looking. It takes a terrible lot of goodness to make up for such a nose as poor Aunt Nancy had. And Uncle Moses lacked a good deal of being a real Venus—or was it Apollo that was such a good-looking man. Well, Uncle Moses was good, too, and what was rather queer was that he and Aunt Nancy had five of as handsome children as you would want to lay eyes on, while another uncle and aunt I had, who was as good looking a couple as you would find in a day's journey, had three children all homely enough to stop a clock. Queer how things seem to go by contraries sometimes, and— Now ain't she a real beauty? She was a girl that stood up with me when I was married, and she was the belle of the neighborhood—a slender, delicate little thing that folks thought would die of consumption. But my king! I saw her when I was visiting over in Henry County last fall, and she weighs two hundred and sixty-nine pounds, and has twenty-eight grandchildren! You can't always tell how these pindling, frail-appearing critters will turn out. She's outlived two husbands, and they did say she was looking for a third, even if— That is a photograph of my little boy that died. He would be forty-seven years old next October, dear little chap! He was two years and six months and three days old when he died, and my youngest and prettiest child. I never got quite reconciled to losing him, and I was always so thankful that I had his picture taken just when I did, for he was taken sick the very next day, and lived but forty-eight hours. The photograph has been such a comfort to me, and— That is a picture of my husband when he was twenty-two. Doesn't he look green as a gourd? He was as thin as a match then, and here he weighs two hundred and ten now. Curious how some of these beau-pole young men do flesh up in their later life. He has on the first white shirt he ever had, and a paper collar. Everybody used to wear paper collars then, and you can see by his looks that he felt considerable smart in his. See a little of his handkerchief sticking out of his upper coat pocket. But young fellows do just so nowadays, but la, let 'em. The older I grow, the more I like to see young folks enjoy themselves and do all the harmless little things youth like to do. I tell them that they are eating their white bread now, and land knows that they will have enough black bread to eat later, when all the cares and responsibilities of mature life come to them. This is a picture of my last grandchild—my son Henry's little girl. And ain't she a cunning little thing? She was only nine months old the day she set for this picture, and see how she sets up as like a child a year and a half old. I never did see a child of her age as forward as she is. She could walk all around the room when she was ten months old, and when you are talking she will set and look at you as if she understood every blessed word you said. That's her mother on the other page. Real pretty girl she was, and I couldn't ask for a better daughter-in-law or picked out a wife I'd rather have had my son have. It seems to me sometimes that the best part of life is when you get along in years, and have your children good men and women around you, and coming home now and then bringing their babies to grandma and grandpa. We had twenty-nine to dinner last Thanksgiving, and there was room for all of 'em in our hearts, if the house was some crowded. You'll find all my eight children's pictures in the book, but I must run out now and see to the bread in the oven and get my dinner under way. I'll tell you about the rest of the pictures in the album after dinner."

Useful Little Savages

A Study of the Dragon Fly and Its Interesting and Important Part in the Insect World

By Mr. Frank D. Wells — Sketches by the Author

Among the insects which arrest the attention during the summer months the dragon flies have an important place. The lepidoptera may be more numerous and showy, but they are no more graceful in their flight, while their life history has less of interest attached to it than is to be found in that of the members comprising the numerous order of dragon flies, or Odonata.

The insect is best known as the dragon fly, but there are several local names for it. Some of these terms have been suggested by the appearance of the creature, but others seem to be a survival of some fancy or superstition now in a fair way to be forgotten.

In parts of England it is known as the "horse stinger." Certainly the long, slender body has a formidable appearance, but it contains no sting. It is perfectly harmless to the larger animals, although a terror to the small inhabitants of the air. The Scots call it the "flying adder," an appropriate name for the larger members of the order.

The terms "snake feeder" and "snake doctor" are still heard. They serve as a reminder of the days when the insect was supposed to be of service to snakes in the manner suggested by the names.

Many a man remembers it as the "devil's darning needle" of his childhood, and recalls how he was told by some teasing companion that it sewed up the ears and eyes of bad boys. He doubtless often wondered how it could be so careless as to let some of his little neighbors escape, and perhaps trembled lest it should—through mistake, of course—try its needle on himself, to the detriment of his sight or hearing.

In reality the dragon fly is one of the most useful among insects. It wages an incessant war upon flies, mosquitoes and numerous other pests more or less harmful, and plays an important part in reducing their numbers. It may do some little injury by destroying other useful insects, but that is insignificant when compared with the good it does.

The early stages of the fly's life are passed in the water. The egg is laid in a pool or sluggish stream, and soon the larva is out. It is called a nymph. The voracious little creature at once sets out on the war path, slaying and devouring without mercy. Mosquito wrigglers fall easy victims; so do the larvæ of water bugs and numerous aquatic insects. Even the fry of fish as large as the nymph itself are caught and eaten by it. The cannibal will make a meal out of its own kind if it has an opportunity.

When nymphs are desired for the purpose of study they are obtained by scooping the debris from the bottom of a pool. The little fellows are picked out and put in an aquarium which is supplied with sand and aquatic plants. Here they may easily be kept and their habits observed.

After the larva has attained its growth in the water it does not change to a pupa and spend several days in quiet, like the butterfly or the beetle. Such a course would not be safe, since in its helpless condition it might be a prey to its own kind. Instead of that it crawls out of the water upon a stone or blade of grass, the skin splits down its back, and it crawls out a mature insect, or imago, leaving the empty case as a reminder of bygone days. Thus a very short time is sufficient to make the change from a hungry water wolf to an equally voracious marauder that is among insects what the hawk and the eagle are among birds.

No creature is more at home in the air than the dragon fly. Its lace-like wings look delicate, but they are strong enough to support the slender body for long intervals of flight. It does not flit aimlessly about like the butterfly. The dragon fly has no time to waste. It always has somewhere to go and something to do.

But it certainly has need of good wings, since it would have a sorry time if it had to depend upon its legs. In fact, it cannot walk at all. Its legs are not for that purpose. They curve forward and are used for seizing and holding its prey or grasping the object on which it alights. For these purposes they are admirably fitted, but not for walking.

Flies, large and small, are the most common food for all the Odonata. These are grasped and eaten while the insect is on the wing. But many other insects of the air meet with a like fate. Even the wasp, bold warrior that he is, may abandon hope if it comes within the reach of the dragon's agile arms and powerful jaws.

If the "darning needle" could be domesticated it might be made useful for clearing houses of flies and mosquitoes. The subject has received serious attention, but up to the present time no practicable way has been found for rearing it artificially or keeping it in subjection after it is grown. It must still be left to roam at its own free will, wild, untamed and untamable.

The Odonata is made up of several families, and these are subdivided into more than two thousand species. Less than three hundred are natives of the United States, but the greater part of these is peculiar to our country. The name is derived from the Greek word "odous," meaning a tooth, suggested by the strong mouth parts of the insect. But numerous as are the species, they easily arrange themselves in two divisions.

Those of the first division are called "damsel flies." Both pairs of wings are alike in shape and are held erect when in repose. The wings of some species are clear, but of others they are dark, almost black. The bodies vary in color. Some are blue or green, with a metallic luster; others are red, yellow or perhaps of a dull hue. The sexes are not always alike in color, which might easily lead the observer to suppose there were more species than there really are. Those who have watched them as they flitted across inland lakes and about the wooded banks of streams need not be told that the name is well chosen. Their slender forms and graceful movements make them the damsels among the little creatures of the air.



THE DAMSEL FLY

The members of the second division are known merely as "dragon flies." They rest with wings held horizontally. The front and hind pairs are not alike. The wings of some species are clear, some are barred with black, others are spotted. The bodies of some are highly colored, but in general they are lacking in the bright, metallic hues and slender gracefulness of the damsels.

Collections of these harmless, useful insects are being made by many students of Nature. While such collections may have some scientific value, they are not commendable when made merely to satisfy curiosity. The true devotee of Nature finds pleasure and profit in the study of active, living creatures rather than in those that are dead and useless. The fairy-like dragon fly dancing across the woodland path or flitting above the waters of an inland lake is a thing of beauty. What is it when sewed to a piece of cardboard or pinned upon a wall?

The Blue Jay—A Persecuted Bird

Why is it that the blue jay is so persecuted and abused? Popular fancy seems to have credited him with all sorts of undesirable traits. He is accused of fighting other birds, eating their eggs and destroying their nests. He is guilty, according to his enemies, of every crime of which a bird is capable. A writer in the December 25th issue of Farm and Fireside adds his condemnation and places the blue jay in the same category as the English sparrow.

As a rule the blue jay attends strictly to his own business. He seldom seeks an encounter with other birds, but when molested he defends himself, and no doubt puts in a few extra licks on his enemy. Can we blame him? As to eating the eggs of other birds, I have never, in my years of observation, witnessed such an act; and until positive proof is shown, I shall not believe that the blue jay makes a practise of it. Like any other bird, he will help himself to food wherever he can find it, if his natural source of supply fails. Self-preservation is the first law of Nature—bird, beast or human. Bronson Alcott, when his own larder was empty, helped himself to Emerson's potatoes.

The blue jay's chief value is as a destroyer of insects, particularly during the winter months. Naturally we would suppose that at this time of the year little in the way of insect life could be found; yet it is the winter birds that accomplish the most good. Under the bark, in crevices and on the bare twigs of fruit trees the eggs and pupæ of injurious insects are found in large numbers. They constitute a large portion of the blue jay's diet. A few blue jays in the orchard will destroy thousands of eggs, scales and grubs. Every egg devoured would have produced an insect, whose offspring would in a short time multiply into thousands of caterpillars.

Careful observation will show that the blue jay is a useful bird that should be encouraged rather than abused. Conclusions based on occasional acts should not be accepted. Such a course would lead to the condemnation of practically all of our native birds; but we know that by far the greater number work for the farmer. The study of the birds and their habits is truly worth while, and once taken up it becomes charmingly alluring. Of late years the interest shown in birds, and especially among the farmer folks, is remarkable, and I trust the good work will keep up.

Nat S. Green.

The Origin of Things

The origin of some of the common things that we daily encounter are really interesting, some amusing, others instructive. Here are a few whys and wherefores taken from the "Scrap Book:"

WHY do persons sigh?

BECAUSE an interval of several seconds, during which the walls of the chest remain rigid and cause oxygen starvation, always follows moments of mental disquietude; when Nature demands her supply of oxygen the deep inhalation occurs, the expiration after which we call a sigh.

WHY do we speak of giving a person the "cold shoulder?"

BECAUSE of the custom once prevalent in France of serving to a guest who had outstayed his welcome a cold shoulder of mutton instead of a hot roast, as a hint for him to go.

WHY do we wear heels on our shoes?

BECAUSE the sandal-like footgear of olden times was not adapted to riding, and when the high boots were introduced, heels were put on for the purpose of giving the foot a good hold on the stirrup.

WHY are victims of mob vengeance often covered with tar and feathers?

BECAUSE of a custom observed in the days of Richard Cœur de Lion, one of whose statutes provided that any robber found voyaging with the Crusaders "shall be first shaved, then boiling tar poured upon his head, and a cushion of feathers shook over it," after which the unfortunate one was put ashore at the first place the vessel touched. The earliest mention of this form of punishment was in 1189.



THE DRAGON FLY—THE LITTLE SAVAGE

Doctor Burton's Prescription

[continued from page 13]

Mrs. Ambler, when he mentioned that some one had told him that. "I used to, but my chickens and garden and small fruits take my time now, besides paying better. I guess we can make room for you if you will be satisfied with our simple fare." She wondered why a well-dressed stranger would want supper at a farmhouse with the town only a mile away; but he sat down his satchel, and she could do nothing but prepare some extra food.

"I'm looking at real estate," said Mr. Ambler. "Is this farm for sale?"

"No indeed! It pays too well," said Mrs. Ambler. "We have it all clear and have made enough money to send my son to college—that is, he is going this fall. I want the children to have the very best education I can give them."

"Are you a widow, madam?"

"No," said Mrs. Ambler shortly. She recalled the stories she had heard of slick agents and swindlers, and she thought this stranger might be getting information for some sinister purpose. "My husband is in the West."

"The reason that I ask is that I was through this country some years ago, and this farm was very much run down. People said that the man who owned it was a shiftless, no-account fellow who let his wife support him and spend all the money she could scrape together for patent medicines. I thought perhaps he had died and you knew how to manage. It often happens that the wife of a no-account, trifling man is better off without him than with him, and I thought you might be such a person. When I was through here before everything had a run-down-at-the-heel look, but now things are prosperous. People said then that—"

"I must ask you to leave this house at once," said Mrs. Ambler. "I will not allow you to speak of my husband in that way." She held open the door and motioned the stranger to go, but just then Jimmy entered from the barn, where he had been doing the chores.

"Why, papa, when did you get home?" he cried, dropping the pail of milk. "You look so different, but I know your eyes."

After all the exclamations and explanations were over Mr. Ambler said regretfully, "Then I won't get to pay off the mortgage, after all. But I know what I will do. I will hunt up Doctor Burton and pay him for taking me West. After all, his prescription was the making of me, and I want to repay him. If I ever again spend money for medicines to cure laziness I don't want such care and consideration as I once received. I want to be sentenced to the penitentiary at hard labor so I may regain my senses. I wish I had gone West with the doctor years ago. Do you remember he said few people afflicted with my complaint made complete recoveries? Well, I think I can safely write and tell him to put my case on record as completely cured. There has been no relapse for three years, and there never will be."

Mrs. Ambler looked at the sturdy, self-respecting man before her in his neat clothes, and felt sure that he spoke the truth. "Yes, pay Doctor Burton anything he will accept," she said softly. "It is worth a great deal to have you back, Richard, safe and—well."

Man Who Comes to Stay

By S. E. Kiser

The world can easily spare the man
  Who pauses a moment here or there
To make a promise or form a plan,
  Or to pluck some flower that may be fair;
But the world has use for the man who gives
  His best for the joys that he wins away—
The world with a welcoming cheer receives
  The determined man who has come to stay.

There are few rewards for the pioneer
  Whose thoughts are only of sudden gains,
Who camps for a day on the far frontier,
  Then journeys backward across the plains;
But wood and valley and plain and slope
  Yield their best to him who has blazed his way
To the scene on which he has set his hope,
  Who, having arrived, is there to stay.

A Page of Practical Spring Fashions



No. 873—Plaited Shirt Waist
Sizes 32, 34, 36 and 38 inch bust measures.



No. 1037—Box-Plaited One-Piece Dress (With Separate Guimpe)
Sizes 4, 6 and 8 years.



No. 987—Single-Breasted Box Coat
Sizes 6, 8, 10 and 12 years.

No. 988—One-Piece Plaited Dress
Sizes 6, 8 and 10 years.



No. 898—One-Piece Dress With Side Opening
Sizes 6, 8 and 10 years.

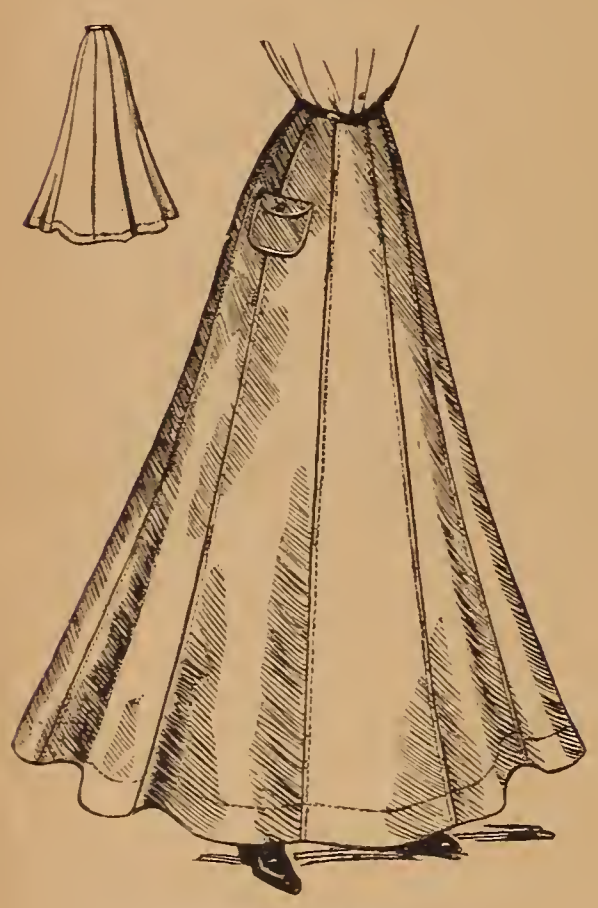


No. 1108—Box-Plaited Shirt Waist With Jabot
Pattern cut for 34, 36, 38 and 40 inch bust measures. Quantity of material required for medium size, or 36 inch bust, four yards of twenty-seven-inch material, or two and three fourths yards of thirty-six-inch material, with one half yard of tucking and three and one fourth yards of ruffling for frills.



No. 980—Cutaway Coat With Shoulder Lapels
Sizes 32, 34, 36 and 38 inch bust measures.

No. 981—Six-Gored Plaited Skirt
Sizes 22, 24, 26 and 28 inch waist measures.



No. 1093—Seven-Gored Walking Skirt With Pockets

Pattern cut for 24, 26, 28 and 30 inch waist measures. Length of skirt all around, 40 inches. Quantity of material required for medium size, or 26 inch waist, seven and three fourths yards of thirty-six-inch material, or five and one eighth yards of fifty-four-inch material.



No. 844—Shield Waist With Lace Guimpe
Sizes 32, 34, 36 and 38 inch bust measures.

No. 845—Eleven-Gored Skirt
Sizes 22, 24, 26 and 28 inch waist measures.



No. 779—Guimpe Waist
Sizes 34, 36, 38 and 40 inch bust measures.

No. 780—Box-Plaited Skirt—Eight Gores
Sizes 24, 26, 28 and 30 inch waist measures.

MADISON SQUARE PATTERNS

The new catalogue of Madison Square Patterns is now ready. It is like a big illustrated fashion magazine, and is well worth having. We will send it upon receipt of four cents in stamps. Order patterns and catalogue from the Pattern Department, Farm and Fireside, 11 East 24th Street, New York City.

Full descriptions and directions are sent with the pattern as to the number of yards of material required, the number and the names of the different pieces in the pattern, how to cut and fit and put the garment together, and also a picture of the garment as a model to go by.

ALL PATTERNS ARE 10 CENTS EACH

When ordering be sure to comply with the following directions: For ladies' waists, give bust measure in inches; for skirt pattern, give waist measure in inches; for misses and children, give age. To get bust and breast measures, put a tape measure all the way around the body, over the dress, close under the arms. Order patterns by their numbers. Satisfaction guaranteed or money refunded.

OUR LATEST LIBERAL OFFER

We will give any two of these patterns for sending two yearly subscriptions to Farm and Fireside at the regular price of 25 cents each. Your own subscription may be one of the two. When ordering, write your name and address distinctly. We will send Farm and Fireside one year, new or renewal, and any one pattern for only 30 cents.



No. 875—Kimono With Yoke (Long or Short)
Sizes 32, 36 and 40 inch bust measures.

Miss Gould's Fashion Page

I WONDER if every woman realizes the important part the corset plays in fashionable dressing. It really can make or mar the whole effect of a gown, for it is impossible to have a dress fit well if it is worn over a badly shaped and ill-fitting corset.

This spring, with the princess dress the height of fashion, it is more important than ever for every woman to be well corseted. It is wise to get a corset with a long hip and so boned that the steels will not cut through. Very cheap corsets are poor economy, not only because the bones are always breaking, but because its lines are apt to be wrong and it invariably stretches out of shape. The corset which holds its shape and gives long lines to the figure is the best corset investment to-day.

In putting on a corset, be sure to pull it down well before lacing it; and remember, if you have the right style corset and in the correct size, that the back steels should be about two inches apart at the waistline when the corset is laced. Then from the waistline the distance should widen toward the top and toward the bottom of the corset. With the aid of a well-shaped corset any woman can wear a princess dress.

The model shown on this page in illustration No. 1125 is an excellent design to follow, and is nowhere near as hard to make as one might think. There is no hanging of the skirt to be done, no fitting it on the hips nor adjusting it to the belt, which is always more or less a troublesome matter, and there is no placket to worry over. Such a dress requires but little trimming—in fact, part of its charm is its simplicity. The fact that the gown is worn with a guimpe means, of course, that its effect can be changed very many times. Mohair is a good material to use for such a dress, or bordered gingham or foulard if one wishes to have a silk frock.

The patterns illustrated on this page may be ordered from the Pattern Department, Farm and Fireside, 11 East 24th Street, New York City. The price of each pattern is ten cents. If you wish to know where the bodkin and skirt marker may be purchased, write to Miss Gould.



No. 1124—Shirt Waist With Long Buttoned Sleeves

Pattern cut for 34, 36, 38 and 40 inch bust measures. Quantity of material required for medium size, or 36 inch bust, three yards of thirty-six-inch material, or two and one eighth yards of forty-four-inch material.



THERE is a new little bodkin out which costs only four cents, and is made so that it may be used with ribbon any width. Instead of the ribbon going through a slot, in the usual way of bodkins, it is held at the end of the bodkin, which opens to receive it, and it is fastened there by a little slide. This enables the ribbon to be run in flatly wherever it may be desired.

NOW that slenderness of outline is the new vogue, the sleeve is helping to carry out the silhouette. Smaller sleeves are the fashion. Next fall it will be the full-length sleeve almost entirely, but this spring the three-quarter and the seven-eighth sleeve will be used the most, though many of the new shirt waists in tailored effect show the long sleeve.

With the plain tailor-made suit the long coat sleeve will be worn, but with the skirt-and-coat suit less severe, the seven-eighth sleeve and the three-quarter sleeve will be the most fashionable.

The mandarin sleeve is on the wane. It will be used somewhat this spring, but is no longer the high-style novelty that it was. Many shoulder draperies will be seen, both epaulettes and plaits being brought into use to give the broad-shouldered effect. Many gowns will have the long, wrinkled mousquetaire sleeve.

IF LAST year you happened to have a skirt-and-coat suit, and now find that your skirt is worn out and yet the coat looks quite permissible, don't despair. Paris is advocating this spring two contrasting materials for one suit—that is, with a plaid or a striped skirt a plain cloth jacket may be worn. If your coat suit, for example, last spring was brown, you will be quite up to the moment in style if you buy one of the new striped serges in brown and tan and use it for the skirt to wear with your last season's coat. As a design, stripes keep right on being fashionable. The worsted suitings show very pretty shadow stripes, and some of the more expensive mohairs display two-color combinations in stripes—brown with a dull green stripe, dark blue showing a lovely shade of art green, and gray with a porcelain-blue stripe.





No. 1125



No. 1126
No. 892

No. 1125—Princess Guimpe Dress Buttoned in Front

Pattern cut for 34, 36, 38 and 40 inch bust measures. Quantity of material required for medium size, or 36 inch bust, fourteen yards of twenty-two-inch material, or eleven yards of thirty-six-inch material, with three yards of inserted tucking for guimpe.

No. 1126—Shirt Waist With Tab Trimming

Pattern cut for 34, 36, 38 and 40 inch bust measures. Quantity of material required for medium size, or 36 inch bust, three and three fourths yards of twenty-two-inch material, or two and three fourths yards of thirty-six-inch material, with five eighths of a yard of contrasting material.

No. 892—Plaited Skirt With Trimming Band

Pattern cut for 22, 24, 26 and 28 inch waist measures. Length of skirt all around, 39 inches. Quantity of material required for medium size, or 26 inch waist, thirteen and one half yards of twenty-two-inch material, or ten and one half yards of thirty-six-inch material.

IN THE choice of colors for the spring of 1908, Fashion seems less capricious and more utilitarian than for many a long time. It was blue last fall, and it's to be blue again this spring—blue, however, in many fascinating shades; such as canard blue, which is duck blue, a very lovely, delicate shade. Copenhagen blue continues in fashionable favor, and navy blue and royal blue for every-day wear are looked upon as reliable, good-style colors.

Next to the blues come the browns. A beaver shade of brown is very fashionable, and so are the russets and a citron shade. Chamois color will be used more than ever, and the bread and biscuit tints.

Tan is a good color to choose for a gown from the fashion standpoint, and cream is also the mode.

A number of shades of green will be worn, and a few grays on the mole order.

To use in combination with darker fabrics there are many brilliant colors high in favor, such as framboise (raspberry), a bright shade of red, bois de rose, which is much the shade of apricot, feu, a lovely pinkish tint of red, paroquet green, sulphur and pansy purple.



THIS skirt marker is invaluable to the woman who makes her own clothes. It stands firmly on a broad flat base. The marker can be adjusted at anywhere from one to seven inches. To use, let the person who has the skirt on turn around slowly, while the one who is making the skirt marks a correct and even line all the way around with the chalk. This skirt marker costs only forty-nine cents.

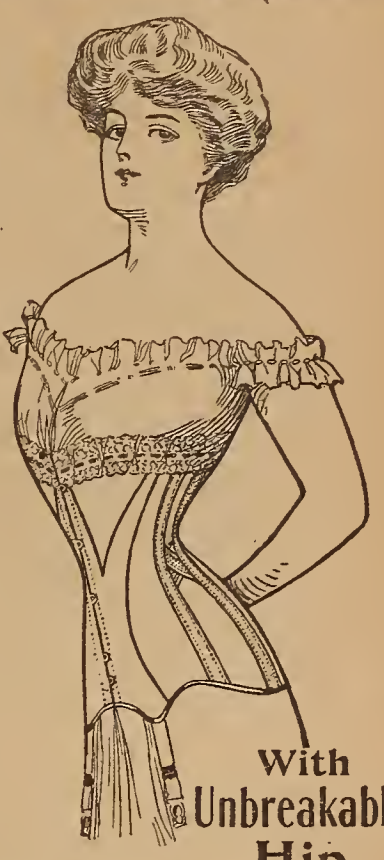
A VERY new idea in millinery this spring is the broad-brimmed sailor of rough silk and straw—the straw being introduced as a binding for the brim. Loops of ribbon and flowers are used as the trimming.

Extremely broad turbans are among the new shapes, and small toques fitting the head closely are also worn, with the trimming raised rather high on the left side.

Among the flowers which will be fashionable for the summer hats are roses in all colors, big bunches of forget-me-nots, tulips in their own exquisite natural colors, hyacinths and dandelions, which come not only in yellow, but in black and all white.

Ribbons are much used as hat trimmings in bows, loops and rosettes. The rosette is particularly good style, and is generally made with a fancy center, such as a flower or a button.

Nemo Kosmo Corset



With Unbreakable Hip

Wears twice as long as any other corset sold at the price. More stylish and comfortable than many $5.00 corsets.

Has the Nemo "Unbreakable Hip," a crossed boning that extends under the side steels—they can't break.

We will give you a new corset if the hip breaks before a reasonable time.

Has the Nemo "Triple-Strip Re-enforcement"—bones and steels can't cut through.

In two models—No. 159, for tall and medium figures; No. 160 (see cut above), with lower bust and longer hip, for stouter figures. Prices for either model:—

In Sizes 19 to 30 $1.50; By Mail or Ex., prepaid $1.75
In Sizes 31 to 36 $1.75; By Mail or Ex., prepaid $2.00

Order from us if your dealer can't supply you. Write for our new booklet, "Hygienic Figure-Building," mailed free.

KOPS BROS., Manufacturers
Fourth Ave. and 12th St. New York

1 to 3

Saving a cent on a paper of pins and buying three papers, is poor economy; when *one* paper of

STEWART'S DUPLEX SAFETY PINS

will outlast three of any other kind. They are the best because the stiffer wire don't bend, and they stay fastened. The sharp points and the guarded spring prevent tearing the cloth. Fasten from either side, but can't slip through. The only pin that guarantees safety and comfort.

If your dealer does not keep them, send us his name and address with four cents in stamps for samples, retailing for twice the money. Examine them carefully, and you'll always ask for Stewart's Duplex Safety Pins. See that all cards bear the name of

CONSOLIDATED SAFETY PIN CO.
169 Farrand St. Bloomfield, N. J.

HOW Farmers Can SAVE MONEY On Groceries and Furniture



We want to tell you how you can save nearly one-half what you now pay for Tea, Coffee, Soaps, Breakfast Foods, Baked Pork and Beans, Rice, Spices, Flavorings, Toilet Goods, in fact everything you buy at stores for home use by ordering them direct from our factory, thus saving all middlemen's profits. In addition we will tell you how you can

Furnish Your Home Without Cost—

how you can get with your orders for our Guaranteed Food Products, beautiful articles of furniture, such as this Leather Morris Rocker, without a penny of extra cost. A postal brings our big catalog which explains all.

Crofts & Reed Co., Dept. 251, Chicago

THE "BEST" LIGHT



One burner will give as much light as ten ordinary oil lamps; six 16 candle power electric bulbs—six 16 candle power gas jets or 5 acetylene gas jets. Costs 2 cts. per week. Produces a pure, white, steady, safe light. Over 200 styles. Every lamp warranted. Agents wanted. Write for catalog.

THE BEST LIGHT CO.
212 E. 5th St., Canton, O.

The American Flag

BY ALONZO RICE



All countries have their standards and symbols; representations of both are found on the oldest bas-reliefs of Egypt. Carlyle says he sees in a nation's military banners "the divine idea of duty, of heroic daring; in some instances of freedom, of right. It is in and through symbols that man consciously or unconsciously lives, moves and has his being; those ages, moreover, are accounted the noblest which can the best recognize symbolical worth, and prize it the highest."

The flag of each country has been brought up to its present state by a process of evolution, as it were. The flag of the United States is a marked instance of this condition of affairs.

The Colonies, up to the Revolution, lived under the British flag. In 1680 the flag of New England was white, charged with Saint George's cross in red surmounted with the crown. While Manhattan was in possession of the Dutch, the ships waved a flag on which was the figure of a beaver, the then insignia of the New Netherlands. In 1707 the Colonies adopted the Union Jack of Great Britain, and it was in general use at the time of our revolt from British authority. Directly after the battle of Lexington a new flag was improvised, with the motto "God, who transplanted us hither, will support us." This soon gave way to regimental colors, each being distinctive in shade. At Bunker Hill a blue flag was chosen to designate the New England troops —the first sign we see of union in the Colonial army. The colony of Massachusetts sent out cruisers in the spring, each flying a white flag on which was painted a green pine tree. To Col. William Moultrie, of South Carolina, is due the honor of raising the first republican flag. It had a white crescent on a blue ground. This was unfurled in Charleston harbor June 28, 1776. While the idea of union was gradually developing, one of the favorite devices was that of a joint snake, each joint bearing the name of some part of the country, with the motto beneath, "Unite or die."

On June 14, 1777, Congress, deeming it no longer appropriate to use the British colors, passed the following resolution: "Resolved, That the flag of the United States be thirteen stripes alternately red and white; that the union be thirteen stars, white in a blue field, representing a new constellation."

The first national flag after this pattern was made by a Mrs. Ross, of Philadelphia. She was assisted by some distinguished men, among whom was Benjamin Franklin. The blue field was suggested by the Covenanters' banner of Scotland, signifying a league and covenant against oppression, involving vigilance, perseverance and justice. The stars were arranged in a circle to symbolize the perpetuity of the Union, the circle denoting eternity. The thirteen stripes in connection with the stars showed the number of the United Colonies, and the subordination of the states to and their dependence upon the Union, as well as equality with themselves.

On January 13, 1794, the following United States law was enacted: "That from and after the first of May, 1795, the flag of the United States shall be fifteen stripes, alternate red and white; that the union be fifteen stars, white, in a blue field." This design was used during the War of 1812.

On the fourth of April, 1818, Congress made a change as follows: "That from and after the fourth day of July next the flag of the United States be thirteen horizontal stripes, alternate white and red; that the union be twenty stars, white, in a blue field. That on the admission of a new state into the Union, one star be added to the union of the flag; and that such addition shall take effect on the fourth of July next succeeding such admission."

The reason for returning to the original thirteen stripes is plainly evident; the addition of a stripe on the admission of each state into the Union would make the flag too unwieldy. The former number of stripes showed the original number of states in the Union, and the addition of stars denoted the prevailing number of states.

Birthplace of Daniel Webster

BY M. W.

New Hampshire is justly proud of the fact that no state in the Union has given more illustrious men to the nation than has New Hampshire. Its rugged hills suggesting strength seem to have imparted something of their influence to her sons and daughters. In the old town of Salisbury, New Hampshire, stands the plain old farmhouse in which Daniel Webster first saw the light of day on the eighteenth of January in the year 1782. He was his father's second son, and the father was a farmer and also a justice of the peace.

The old Webster homestead is typical of scores of other ancient houses in New Hampshire. For years and years the style of architecture seems not to have changed very materially in New England. The farmhouses seem to have been built after but one pattern, and that pattern seems to have included a great central chimney with bricks enough in a single chimney to build a small house. Of course, a part of this chimney was the oven, in which the farmers' wives baked their bread and beans and everything else. One may now and then find a New Hampshire housewife who uses the old-fashioned oven when she bakes, and you cannot rid some of the old New-Englanders of the idea that things "tasted better" when they were baked in the old brick ovens than when baked in the best of our "newfangled" kitchen ranges.

The big square chimney in the center of the old Webster homestead is proof of the fact that there is one of the brick ovens in the lower part of the chimney. Without beauty, some of these ancient farmhouses were very comfortable and generously roomy, with big, square rooms not very high. Then there is the wood shed back of the house, and the "shed chamber," in which that very useful individual, the "hired man," slept and in which he kept his limited earthly possessions. Back of the shed is the big barn, and in many instances one could go from the parlor of the house to the barn without going out from under cover. Then there are some of the fine old elms one is so sure to find around the old farmhouses in New England —noble trees they are.

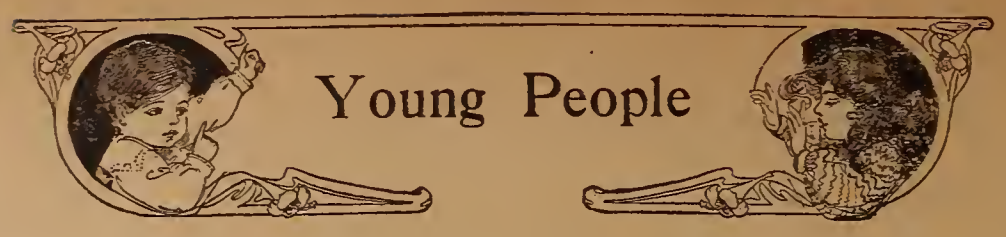
New Hampshire was a frontier settlement when Daniel Webster was born in 1782. Schools and competent teachers were not common, and there were no "lazybones" tolerated on the farms. Every one had to work and there was not much time for play or for study. Daniel Webster received most of his early education from his father, who taught him when the long and hard day's work was done. No doubt the boy learned some of his lessons by the light of a "taller dip," or even by the light of the fire in the big fireplaces in his home.

The boy must have made good use of such time as he had for study, for he was ready to enter Dartmouth College before he was fifteen years old, after less than a year in an academy and some private instruction from a country minister. Young as he was, he was soon first in his class, and he held that place until he was graduated in the year 1801. Then he began to study law, but was induced to become preceptor of an academy at Fryeburg, Maine, at a salary of three hundred and fifty dollars a year. He helped to pay his board by copying deeds. But the career of Daniel Webster is too well known to make any attempt to give it in detail here. He laid the foundation for his success in life in the homely old house in Salisbury, to which many strangers come every summer, eager to see the house in which one of the most gifted men of his day and generation was born. The old house is in an admirable state of preservation, for those early builders in our country built well, if rudely and roughly. Their homes partook somewhat of their own rugged natures, and they would no doubt have had a certain contempt for the "foldels" of our modern architecture. They were glad and content to have plain and comfortable roof trees over them, and they had no time for the unessentials of life. Plain living and high thinking abounded in some of these old houses, else we would never have had the great American republic of to-day.



IN THE TOWN OF SALISBURY, NEW HAMPSHIRE, STANDS THE PLAIN OLD FARMHOUSE IN WHICH DANIEL WEBSTER FIRST SAW THE LIGHT OF DAY, JANUARY 18, 1782

Young People





"JOHN BROWN'S TANNERY," BUILT IN 1826, IN CRAWFORD COUNTY, PENNSYLVANIA, AND REFERRED TO ON THIS PAGE BY ONE OF OUR YOUNG CONTRIBUTORS

John Brown's Tannery

BY HAROLD DRAKE, AGE TWELVE

I live about four miles from the ruins of John Brown's Tannery. About eight years ago the owner remodeled it and converted it into a cheese factory. The basement was used for the factory, and the operator lived on the first floor. It was only one and a half stories above the basement. About a year ago it burned down, so there is nothing left but the ruins of John Brown's Tannery. If you do not know about John Brown, be sure to get your mother or father to tell you about him.

The Puzzler

CHARADE

Two friends disputing o'er a bottle,
To physics turned their thoughts at last;
One of them quoted Aristotle,
The greatest WHOLE in ages past.

Then said the other friend, "You're mad.
Such hideous trash you quote in vain,
And if I FIRST, NEXT, THIRD, bedad,
I'd tell him you were quite insane."

RIDDLES OLD AND NEW

62. When walking through a field of wheat I picked up something good to eat. 'Twas neither fish, flesh, fowl nor bone. I kept it till it ran alone.

63. Where did Noah strike the first nail in the ark?

64. Why is a dirty child like flannel?

65. If a postmaster went to a circus and the bear ate him, what time would it be?

66. Why is a side saddle like a four-quart measure?

67. As I went by a gentleman's door I saw ten working upon four; such twisting and twirling and twining about, I'll leave this riddle for you to find out.

68. How much space does a hen occupy at night?

69. I washed my hands in water that neither rained nor run; I dried my hands on a napkin that was neither wove nor spun.

70. What peer wears the largest hat?

71. Why should a fisherman be very wealthy?

72. Which precious stone is like the entrance to a field?

73. Black we are, but still admired, men hunt for us until they are tired; we tire the horse, but comfort man, guess this riddle if you can.

74. What is it that is higher and handsomer when the head is off?

75. What ship carries the most passengers?

76. Why is a pious man like a sieve?

77. Why is a drawn tooth like a thing forgotten?

78. What fruit grows on telegraph wires?

79. High as a house, low as a mouse, bitter as gall, and sweet after all.

80. Why is a pig in the kitchen like a house on fire?

81. Luke had it in the beginning. Paul had it in the end. Girls have it once, boys never have it. Mrs. Milligan had it twice in the same place.

82. Whitey peeped out of whitey, and saw whitey in whitey, and called whitey to chase whitey out of whitey.

83. Something white as snow, but snow it isn't. Something that's green as grass, but grass it isn't. Something that's red as fire, but fire it isn't. Something that's black as ink, but ink it isn't. What is it?

84. Something that has a nose and can't smell.

85. Tipsy Topsy took two T's to tie two tops to two tall trees. How many T's in that?

86. What makes a horse drink water?

87. Something that has eyes and can't see.

88. Patch upon patch and a hole in the middle. Guess this riddle and I'll give you a gold fiddle.

89. A room full of people, and yet not a single one in it. Why?

90. Big at the bottom, little at the top; little thing goes flippy and flop.

91. Something that goes around the house and only makes one track.

92. Why may a beggar wear a very short coat?

93. Where should you feel for the poor?

94. What is the best way of making a coat last?

95. When did Moses sleep five in a bed?

96. Y Y u r y y u b I c u r y y for me.

97. Why are clouds like coachmen?

98. What is the keynote to good manners?

99. What is it we all say we will do, recommend others to do, and yet no one has ever done it?

ANSWERS TO PUZZLES IN THE MARCH 25TH ISSUE

Charade—Stamen—tamen—amen—men.

Double Acrostic—

E a r w i G
N a t i v E
G u t t e R
L a b i u M
A u r o r A
N o g g i N
D a i n t Y

Answer—England and Germany.

Riddles—43. None. They are all carried to it. 44. His daughter. 45. Fortune. 46. Tie him to a post. 47. His foot. 48. When it is made into a ruler. 49. An egg. 50. On the other side. 51. Perch. 52. Blue fish. 53. Globe fish. 54. Dickens, Howitt, Burns. 55. Because he makes a little hare (hair) go a long ways. 56. Alphabet. 57. Because it is full of sharps and flats. 58. He took a fly and went home. 59. One is stepping up the stairs and the other is staring up the steps. 60. The whale that brought him up. 61. When the dove brought the green back into the ark.



Wit and Humor

Inconvenient

Doctor Herman—"You will be glad to know, madam, that your husband will certainly recover."

Wife—"Oh, dear me, doctor, what shall I do?"

Doctor Herman—"Why, madam, what do you mean? Aren't you anxious that your husband should get well?"

Wife (sobbing)—"Yes—only, when you said last week you didn't think he'd live a fortnight, I went and sold all his clothes."—Philippines Gossip.



ASSERTING HER RIGHTS

Mr. Duck—"Where are you going in such a hurry, Mrs. Hen?"

Mrs. Hen—"Why, over in the garden, sir, I understand that the farmer has set out some kind of 'newfangled eggplants,' and I am going to scratch every one of them out. If there are any eggs to be laid around here, I guess we hens will do it."

Better Not Try It

A peasant insured his house against fire. When he got the policy he asked the clerk, "What should I get if my house were burned down to-morrow?"

"Three or four years' imprisonment," was the prompt answer.—Tit-Bits.

◈

Towne—"Luschman is troubled a great deal by his wife's insomnia."

Browne—"I didn't know that before."

Towne—"Yes, she usually has a severe attack of it every night when he comes in late, and then the trouble begins."—Philadelphia Press.

◈

A negro exhorter said to his audience, "Come up an' jine de army ob de Lord."

"I did jine!" exclaimed one woman.

"Well, whar'd you jine?"

"In de Baptist church."

"Lord, woman, you didn't jine de army ob de Lord, you jined de navy."—Exchange.

◈

Micks Mix

From the twelfth-story window did Murphy
—old Pat—
Fall on Boyle, a fat cabby, and mash him
out flat.
Boyle said, as he crawled from the wreck
of his hack,
"Say, who said I wanted a pat on the
back?"

—Princeton Tiger.

◈

Slow Waiter—"Have I ever been in the country, sir? No, sir. Why do you ask?"

Tired Customer—"I was just thinking how thrilling you'd find it to sit on the fence and watch the tortoises whiz by."—Harper's Weekly.



TOOK UP THE WHOLE TRACK

"You don't mean to tell me that you let the fat boy from the city beat you in a foot race?"

"Yes; but no wonder. He ran up the narrow part of our pasture lane, and I couldn't get past him."

A Heavy Responsibility

Secretary Taft is joyful because he has bought a horse.—The horse's feelings have not been announced.—New York American.

◈

The Noisy Eater

Of table manners such as his
No mortal could be proud;
The greatest trouble with him is
He will eat soup aloud.

—Philadelphia Press.

◈

Poor Lad

The following conversation is said to have taken place in a Boston elevator:

Old Lady—"Don't you ever feel sick going up and down in this elevator all day?"

Elevator Boy—"Yes'm."

Old Lady—"Is it the motion of the going down?"

Elevator Boy—"No'm."

Old Lady—"The motion of going up?"

Elevator Boy—"No'm."

Old Lady—"The stopping?"

Elevator Boy—"No'm."

Old Lady—"What is it, then?"

Elevator Boy—"The questions."—The Watchword.

Indian Yarns

Lord Roberts, in his book, tells a good story of a native Indian servant who had been told to prepare a bath at a certain hour. A fierce attack was in the meanwhile delivered by the enemy, and in the thick of it the servant, who had made his way through the storm of bullets, suddenly appeared among the headquarters staff. "Sahib," said he to his master, "your bath is ready."

An even better story is told by J. H. Settle, which comes from the Malakand, in Chitral, and which concerns a subaltern who was awakened one morning by a brother subaltern's servant pulling at his foot. "Sahib," whispered the servant, anticipating wrath, "sahib, what am I to do? My master told me to wake him at half-past six, and he has not gone to bed till seven!"—Dundee Advertiser.

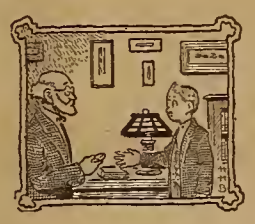
◈

He was a young Scotch clergyman, and was to preach a "trial" sermon. Fearing that his hair might be disarranged, and seeing no mirror, he quietly said to the beadle, "John, could you get me a glass?" After a few minutes John returned with something under his coat. To the astonishment of the divine, he produced a bottle with a gill of whisky in it, saying, "Ye mauna let on aboot it, meenister, for I got it as a special favor, and I wadna hae got it ava if I hadna told them it was for you."—London Tatler.

◈

He—"She is a decided blonde, isn't she?"

She—"Yes, but she only decided recently."—London Opinion.



THE BEST YET

Patient—"Every time pa and I eat watermelon we have stomachache. But we're going to fool 'em next season, all right."

Doctor—"Why, what are you going to do?"

Patient—"We're going to graft Jamaica ginger plants onto our watermelon vines."

The Way It Appeared to Her

When she was five years old her aunty took her to church; it was her first experience.

When she got home her mother asked her how she liked the service.

"Oh, well, God was there in a white nightgown, and he didn't speak loud enough for the people to hear what he said, so they kept saying *over* and *over*, 'We beswitch Thee to let us hear Thee, good Lord.' I didn't like it very much."—Judge.

◈

Awful Drunk by the Clock

Strange to say, Medford "voted dry," but horse medicine is to be had by those who know how to get it.

Not long ago a citizen of Medford was wending his way homeward, tracking from this side to that, muttering to himself and wondering what his wife would say about his condition and the lateness of the hour. He had reached the square. It was midnight, but the citizen did not know it, for as he looked up at the clock in the steeple of the M. E. Church the dial seemed to revolve like a buzz saw. "I'm drunk," said the citizen, "drunk—too blamed drunk to see straight, but if that clock would strike, I'm not so drunk but what I can count."

He sat down on the steps to think it over. Just then the clock began to strike. The citizen counted: "One, two, three, four, five, six, seven, eight, nine, ten— It mus' be 'leven. 'Leven no, it's twelve."

Just then the Presbyterian clock began—thirteen, fourteen, fifteen—"Eh"—sixteen—"Gee"—seventeen. "D'ye hear that"—eighteen. "Lord, but I'm full"—nineteen. "Holy smokes"—twenty, twenty-one, twenty-two, twenty-three— "———, ———"—twenty-four. "Oh, but Mary will give it to me! I never was out so late in my life!" C. T.



Mr. Farmer—"See here! That's no way to dig potatoes. There's only one way to learn to do things in this world, and that is to begin at the bottom."

Boy—"Huh! I don't see how you're goin' to begin at the bottom when yer diggin' potaters. I should think you'd begin at the top an' dig down."



"A Kalamazoo Direct to You"

We have more than 100,000 satisfied customers in more than 17,000 cities, villages and towns in the United States who have each saved from $5 to $40 by buying a Kalamazoo stove or range on

360 DAYS APPROVAL

direct from our factory at actual factory prices. No stove or range has a higher reputation or gives better satisfaction. You run no risk. You save all dealers' profits. We pay the freight.

Send Postal For Catalog No. 183

and see list of towns where we have satisfied customers.

Kalamazoo Stove Company, Mfrs., Kalamazoo, Mich.

Our patent oven thermometer makes baking and roasting easy.



WANTED—A RIDER AGENT IN EACH TOWN and district to ride and exhibit a 1908 Model "Ranger" bicycle furnished by us. Our agents everywhere are making money fast. *Write for full particulars and special offer at once.*

NO MONEY REQUIRED until you receive and approve of your bicycle. We ship to anyone, anywhere in the U. S. *without a cent deposit* in advance, *prepay freight*, and allow TEN DAYS' FREE TRIAL during which time you may ride the bicycle and put it to any test you wish. If you are then not perfectly satisfied or do not wish to keep the bicycle you may ship it back to us at our expense and *you will not be out one cent.*

FACTORY PRICES We furnish the highest grade bicycles it is possible to make at one small profit above actual factory cost. You save $10 to $25 middlemen's profits by buying direct of us and have the manufacturer's guarantee behind your bicycle. DO NOT BUY a bicycle or a pair of tires from *anyone* at *any price* until you receive our catalogues and learn our unheard of *factory prices* and *remarkable special offers* to rider agents.

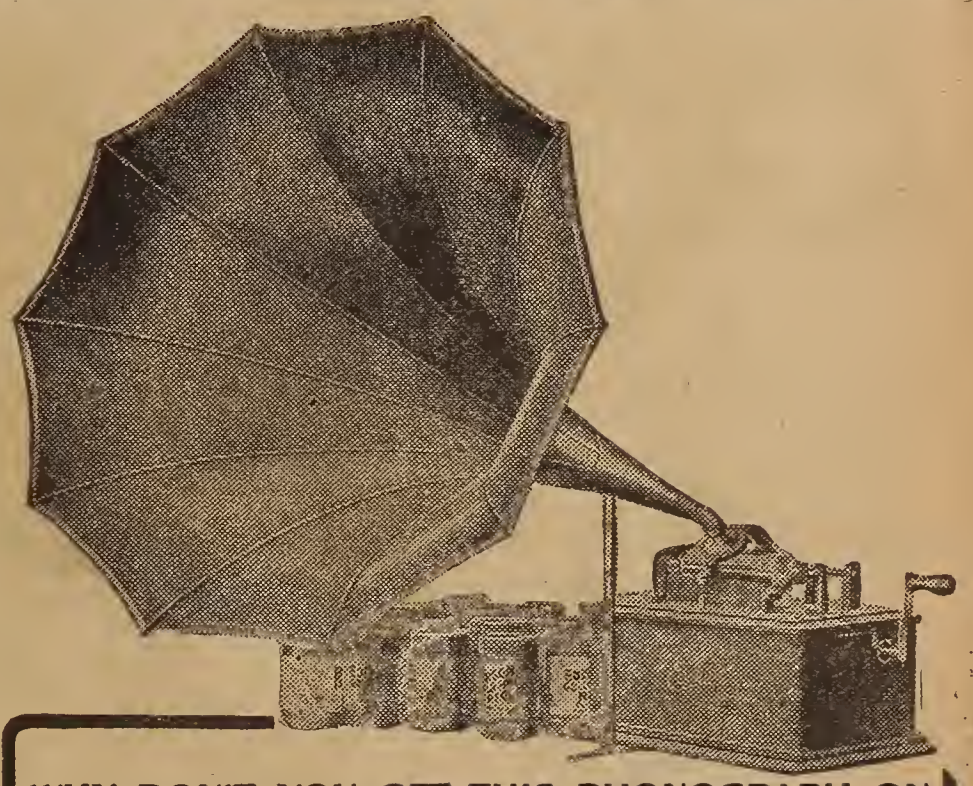
YOU WILL BE ASTONISHED when you receive our beautiful catalogue and study our superb models at the *wonderfully low prices* we can make for 1908. We sell the highest grade bicycles for less money than any other factory. We are satisfied with $1.00 profit above factory cost. BICYCLE DEALERS, you can sell our bicycles under your own name plate at double our prices. Orders filled the day received.

SECOND HAND BICYCLES. We do not regularly handle second hand bicycles, but usually have a number on hand taken in trade by our Chicago retail stores. These we clear out promptly at prices ranging from $3 to $8 or $10. Descriptive bargain lists mailed free.

TIRES, COASTER-BRAKES, single wheels, imported roller chains and pedals, parts, repairs and equipment of all kinds at *half the usual retail prices.*

DO NOT WAIT, but write today and we will send you free by return mail our large catalogue, beautifully illustrated and containing a great fund of interesting matter and useful information; also a *wonderful proposition* on the first sample bicycle going to your town. It only costs a postal to get everything. Write it now.

MEAD CYCLE COMPANY Dept. S-83 CHICAGO, ILL.



WHY DON'T YOU GET THIS PHONOGRAPH ON

FREE TRIAL?

For almost three years I have been making the most liberal phonograph offer ever known! I have given hosts of people the opportunity of hearing the genuine Edison Phonograph right in their own homes without a cent of cost to them.

So far you have missed all this. Why? Possibly you don't quite understand my offer yet. Listen—

My Offer I will send you this Genuine Edison Standard Outfit (the newest model), complete with one dozen Edison Gold Moulded Records, for an absolutely free trial. I don't ask any money down or in advance. Absolutely nothing but a plain out-and-out offer to ship you this phonograph and a dozen records on a free trial so that you can hear it and play it in your own home. I can't make this offer any plainer, any clearer, any better than it is. There is no catch about it anywhere. If you will stop and think just a moment, you will realize the high standing of this concern would absolutely prohibit anything except a straightforward offer.

Why I Want to Lend You This Phonograph:

I know that there are thousands and thousands of people who have never heard the Genuine Edison Phonograph. That is why I am making this offer. I can't tell you one-twentieth of the wonders of the Edison, nothing I can say or write will make you hear the grand, full beauty of its tones. The only way to make you actually realize these things for yourself is to loan you a Genuine Edison Phonograph free and let you try it.

YOU DON'T HAVE TO BUY IT:

All I ask you to do is to invite as many as possible of your friends in to hear this wonderful new style Edison. If not a single one of them orders a Phonograph (and this sometimes happens) I won't blame you in the slightest. I shall feel that you have done your part when you have given these free concerts. You won't be asked to act as our agent or even assist in the sale of a single instrument.

IF YOU WANT TO KEEP IT

—you may do so, but it is NOT compulsory. I am asking you merely to send for a free demonstration. If you do wish to keep it, either remit us the price in full, or if you prefer, we will allow you to pay for it on the easiest kinds of payments.

OUR EASY PAYMENT PLAN

I have decided on an easy payment plan that gives you absolute use of the phonograph while paying for it. $2.00 a month pays for an outfit. There is absolutely no lease or mortgage of any kind.

Get The Latest Edison Catalogs

Just send me your name and address. I will send you our superbly illustrated Edison Catalog, the latest list of Edison Gold Moulded Records (over 1,500 in all languages) and our Free Trial Certificate entitling you to this grand offer. No obligations, just get the catalog. A postal card will do, but you must send me your name and address right away. Address, F. K. Babson, Edison Phonograph Distributers, Edison Building, Chicago.

LOOK FOR THIS TRADE MARK ON EVERY INSTRUMENT

Thomas A. Edison

F. K. BABSON

Edison Phon. Distrib'rs, Edison Bldg., Dept. 3533 CHICAGO

NORTH TELEPHONES specially adapted to farm lines. Sold direct from factory. FOR FARM LINES Book of instructions how to organize farmers and build line free. Write for Bulletin No. 309. The North Electric Co., Cleveland, O. Kansas City, Mo. Dallas, Tex.



25 HANDSOME POST CARDS FOR 10 CTS

25 BEAUTIFUL COLORED CARDS of Friendship, Greeting, Art, Scenery, Pretty Girls, Floral, Novelty and Comic; no two alike; each worth 2 to 5c; with big catalog (500 illustrations) and list of 1000 card exchangers, all sent prepaid for only 10 cts. ELLIS ART CO., Dept. 168, 321 Lawndale Ave., CHICAGO.



PARKER'S HAIR BALSAM

Cleanses and beautifies the hair. Promotes a luxuriant growth. Never Fails to Restore Gray Hair to its Youthful Color. Cures scalp diseases & hair falling. 50c. and $1.00 at Druggists.

Agents Wanted

Agents Make Big Money with our SAMPLE CASE and its valuable complete outfit of tools and specialties for the farm and home—all great sellers. Inexperienced men have sold fifty to sixty a day. Why work for small wages when you can be your own boss and make this big money? Write today for special price to agents and agents' guide "The Way to Win," also catalog full of money makers.



We refer to the publishers of this paper

FOOTE MFG. CO. Dept. 301

Great Agents Supply House, formerly of Fredericktown, Dayton, O.

Agents $103.50 per month selling these wonderful Scissors. V. C. Glebner, Columbus, O. sold 22 pairs in 3 hours, made $13; you can do it, we show how. Free Outfit. F. Thomas Mfg. Co., 51 K. St., Dayton, O.



$3 a Day Sure Send us your address and we will show you how to make $3 a day absolutely sure; we furnish the work and teach you free, you work in the locality where you live. Send us your address and we will explain the business fully, remember we guarantee a clear profit of $3 for every day's work, absolutely sure. Write at once. ROYAL MANUFACTURING CO., Box 945 Detroit, Mich.

AGENTS $300 Every month selling our wonderful SEVEN PIECE KITCHEN SET Send for sworn statement $12 daily profit. Experience unnecessary. Outfit free. F. Thomas Mfg. Co., 751 K. St., Dayton, O.

When writing to advertisers, tell them you saw it in "Farm & Fireside"

500 PICTURES OF ROOSEVELT

Given to You if You Send in One Subscription to Farm and Fireside Before April 30th



Rush This Coupon by April 30th

FARM AND FIRESIDE, Springfield, Ohio.

Gentlemen:—Enclosed please find **25 cents**, for which send me FARM AND FIRESIDE one year, the 500 pictures of Roosevelt, the Roosevelt Puzzle and "Memories," the painting to appear in FARM AND FIRESIDE in one of the May numbers.

Name .....

Address .....

.....

Date .....

Apr. 10 F & F

The 500 Picture=$1,000 Roosevelt Photograph

Only a small section of this great picture is reproduced above. The 500 pictures were taken in nearly every state in the Union. Just two of the entire 500 are alike, and to find them is a puzzle that will keep you guessing for days. These two are **not** in the above section, but are in the large picture that you will get, which is 13¾ x 20½ inches, reproduced on heavy supercalendered stock all ready to hang up the minute you get it, if you accept our offer.

In addition to FARM AND FIRESIDE, the Roosevelt Picture and the Puzzle, you will get "Memories"—the most patriotic painting that has been made in years. Accept **Our Offer** for **Only 25 Cents** before **April 30th.**

FARM AND FIRESIDE, SPRINGFIELD, OHIO

Our Offer

Absolutely Limited to April 30th

Farm and Fireside, 1 year, 24 big numbers.
The 500 Picture Roosevelt photograph costing $1,000, comprising
The Great Roosevelt Puzzle, and in one of our May numbers
"Memories," a picture that will touch the soul of every true American.

25c

Use the coupon opposite, before April 30th

RUNNING ON FULL CAPACITY

Let us study the practise of the manufacturer and apply it to the farm. Do you find him building an expensive plant, then running it at half capacity from lack of minor epuipment or labor? Not a bit of it! He is limited only by the capacity of his plant and the market for his products. He may even double the force and run night and day.

The market for the products of the farm factory is unlimited. The productive possibility of the land and the ability of the man form the only limit. Can we afford to allow the farm to be run at only part of its capacity for lack of labor or equipment? Much of the cost of conducting the business is the same in either case. The fixed charges, which must include interest on the investment, depreciation, insurance and repairs on the buildings, depreciation on teams and implements, etc., vary but little, whether the return is large or small. Yet all these things must be met before any real profit can result.

This problem bears a close relation to the land itself. We cannot afford to invest in land at fifty, seventy-five or one hundred dollars an acre, then through neglect of systematic rotation, proper tillage and other means allow the fertility of that land to decline, thereby cutting down the factory output and the profit.

Herein lies one of the most important factors in the efficiency of the plant. If the introduction of a better type of machine would enable the manufacturer to double the output of his factory, how long would the old machines stay? Excellent machinery, worth thousands of dollars, is yearly thrown aside while still in perfect working order, because some improvement will reduce by the smallest fraction of a cent the cost of producing a yard of cloth or other manufactured article.

What is the average product an acre from your farm? Could it be increased by a more fertile soil? If so, how much? What would this increase cost in proportion to the cost of the present product, including all these fixed charges on capital, etc.? Spend an evening studying this problem, and let us know what conclusion you reach.

If the expenditure of one hundred dollars for fertilizer will yield a return of one hundred and fifty dollars in product, you will look long for a better opportunity for investment.

Apply this same principle to the equipment. Begin with the dairy or the other live stock which may be kept. The cost of caring for a cow which produces three hundred pounds of butter in a year is no more than that of the one which produces two hundred pounds. Her feed may cost somewhat more, and her first cost may be a trifle greater, but not in proportion to the difference in return.

Transform these cows into looms and place them in a factory. Go to the owner of that factory and ask him what these looms are doing. He tells you that this loom does not produce cloth enough to pay for the warp and the wool used in making it; that another pays for the raw material, but does not pay for the labor, but that some of them must do better than this, for somehow he manages to keep the factory going. What would you think of such a manufacturer? What do you think of your cow factory?

Next look over the teams and tools. Are they sufficient and well adapted to their purpose? Then does the system of farming provide for enough use for these implements to make them profitable? If you own an expensive implement costing one hundred dollars, there are certain fixed charges resulting from that ownership which you must bear. These include interest, depreciation, repair, storage, etc. These charges must be apportioned to the number of units of work done. To apportion these charges on a corn harvester to ten acres of corn makes the charge an acre too heavy. The manufacturer can keep his loom at work every day in the year. The farmer cannot do this with most of his tools, but he should try to avoid the need for expensive machines which have a very short period of usefulness.

The teams should be efficient, but not too expensive. Poor horses are costly, by reducing the amount of work done. High-priced ones are expensive, by entailing too heavy a charge from depreciation. This is an important item in horse flesh.

The greater loss in connection with team work, however, lies in the percentage of efficiency of service obtained. If it costs twenty-five dollars a month to keep a team, and that team works two hundred and fifty hours during the month, the cost of the team work is ten cents an hour. If, instead, it works but one hundred and twenty-five hours, the cost is twenty cents an hour. A study of the time schedule may surprise you in this matter. Too many horses stand idle in the stables during winter, to their own hurt and the financial loss of their owners.

Next in this problem of efficiency comes the labor factor, and in this perhaps more farms are weak than in any other. It is the exception rather than the rule to find farms on which the work is completely in hand and everything done at the proper time. Far oftener things are neglected and the farmer overworked because the labor supply is insufficient. If the business as planned will profitably employ five men, only loss will result from attempting to get along with four. If a man's labor which costs four hundred dollars for the year can be so directed as to produce five hundred dollars in additional return, it will be the part of good business policy to employ just as many men as the farm can be made to use. I realize full well that the actual problem is far more complex than this; but this is the principle involved, and it should not be forgotten.

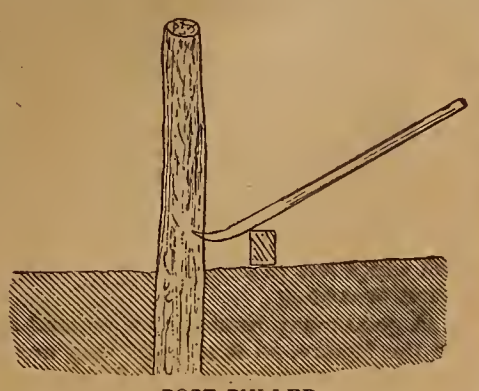
I shall not take up a discussion of the labor problem here. Suffice it to say that either the labor should be increased to meet the demands of the business as planned, or the plan should be changed so that the labor available can make the new plan fully efficient. I have no criticism for the man who wishes to simplify his work so as to carry on his farm largely within his own efforts or those of his own family. He may not make his capital count for the most possible, but if he makes the plan simple enough, so that he does not overtax his strength nor overburden the other members of his household, his may be the most enjoyable life and the happiest home. What better things than these can life offer to any one?

Fred W. Card.

POST PULLER

Of the many post pullers now in use, perhaps the one here shown is the most serviceable. It should be made of an old buggy axle, or any other old piece of iron of about that size, and used as shown. With this tool one man will pull more posts in a day than with any other tool the writer ever heard of, and two men with two of the tools can easily remove the largest telephone or telegraph poles.

J. E. Bridgman.



POST PULLER

HANDLING THE MANURE CROP

We arrive at the conclusion, after studying Nature, that there can be no good farming without making some provision for returning to the soil an equivalent for what we remove from it, and it is one of the undisputed agricultural facts that the best and most economical manner of restoring plant food to our soils is by feeding out our crops on our own farms, and saving and applying to our fields all of the manure made by the animals being fed.

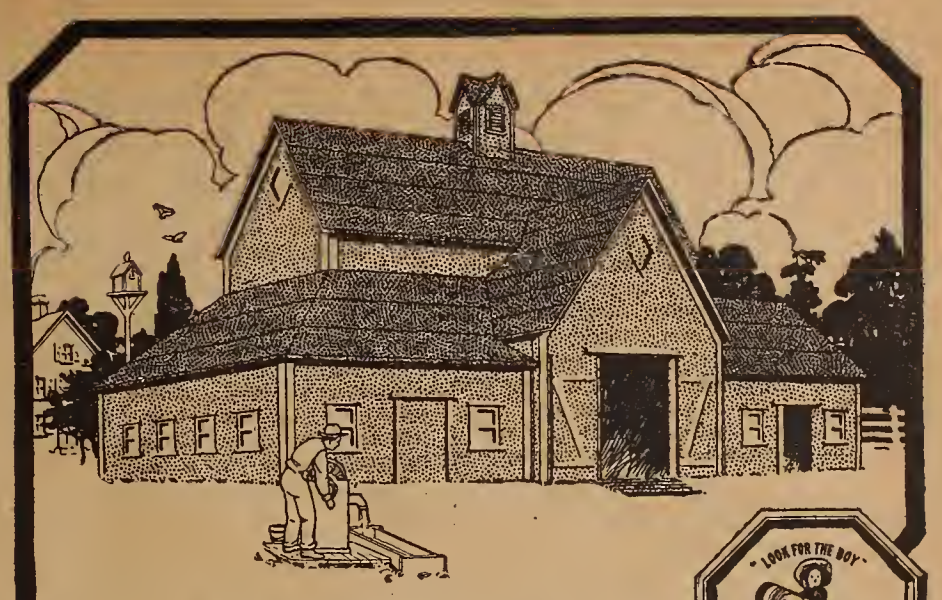
The manure yards of some of our best farmers are striking examples of the waste going on in this direction. It is indeed very difficult to find a yard so constructed and protected that after a heavy rain there cannot be found flowing from it a black stream laden with plant food. In the face of our boasted agricultural advancement along other lines, this ought not to be so.

When we speak of stable manure being an evenly balanced plant food we must consider it as it is when both liquids and solids are saved. One of the reasons why many claim to get more rapid returns from commercial fertilizers is because they use them beside solid manure, which has to be made available for plant food by the action of the soil, water and air before the young and growing plants can feed upon it.

On the other hand, farmers who use both liquid and solid manure in their relative proportions as when made, find that they are a very evenly balanced plant food and that the plants start fully as fast as when commercial fertilizer is applied to the crop.

The saving of liquid manure is worthy of our most careful attention, and on all farms where live stock is being fed there should be tight stable floors and gutters, so that this liquid manure may all be saved. The liquid manure contains more than forty per cent of the fertilizing elements contained in the whole excrement.

W. Milton Kelly.



This Trade-Mark is on Every Roll of

REX FLINTKOTE ROOFING

There are just two ways to tell REX Roofing—one is by the service it gives, and the other is by the Boy trade-mark on every roll. Imitations are made that have an outward resemblance to REX Flintkote, but you can't tell anything about the service until after the roofing is laid; so it will pay you to fix the Boy trade-mark in your mind before you start out to buy. It means advance assurance of satisfaction.

Write for Book and Samples—Free

The book will tell you all about REX Flintkote ROOFING and give photographs of buildings on which it is used, with letters of recommendation from users. The samples will show you what REX Flintkote ROOFING really is and enable you to test its properties.

J. A. & W. BIRD & CO., 75 India Street, Boston, Mass.
Agents everywhere

150 Styles Direct to You At Factory Prices

Buggies, Runabouts, Surreys, Wagons, etc., and 65 styles of Harness.
Many new features. Don't buy a vehicle of any kind until you get our Big 1908 Catalogue. The style, strength and splendid wearing qualities that have made U. S. Vehicles famous, are the result of our experience of over a quarter of a century in building vehicles and selling direct to user. We ship direct from our factory to you, with all agents' and middlemen's profits cut out, saving you ⅓ to ½. Every vehicle sold on thirty days' free trial, two year's guarantee, *Write for Catalogue today.* It's Free.
U. S. Buggy & Cart Co., Carriage Builders, 414-434 E. 8th St., Cincinnati, O.



"A YARD OF ROSES" GIVEN



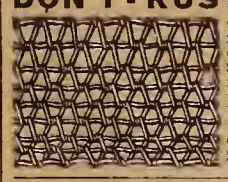
"Yard of Roses" is one of the grandest flower pictures ever offered; 1 yard long, on heavy copper-plate paper, in 10 beautiful colors; over 300,000 sold in last 30 days; a handsome ornament for any home that you will always be proud of. To introduce our splendid farm journal which has a half million readers, we mail this grand work of art, all charges paid, to anyone who sends 10c (stamps or silver) for trial subscription to THE VALLEY FARMER. Send at once before they are gone. Address THE VALLEY FARMER PICTURE DEPT., 569 Jackson St., Topeka, Kansas.



FENCE *Strongest Made*

Made of High Carbon Double Strength Coiled Wire. Heavily Galvanized to prevent rust. Have no agents. Sell at factory prices on 30 days' free trial. We pay all freight. 37 heights of farm and poultry fence. Catalog Free.
COILED SPRING FENCE CO.
Box 18 Winchester, Indiana

DON'T-RUST FARM FENCE



Closest woven farm fence made. Old-fashioned galvanized, therefore can't rust. 40-Carbon Elastic Spring Steel Wire. 30 Days' Free Trial. Send for free catalog No. 57, with prices, freight prepaid, on Farm and Poultry Fence. Address The Ward Fence Co., Box 817, Decatur, Ind., also mfrs. Ornamental Wire and Ornamental Steel Picket Fence.

CASH FOR YOU

How would you like to earn a **cash salary** of $25.00 every month for just doing a little pleasant work evenings, or during your other spare hours? You can do it just as well as not by our new plan—and get **in addition** to the cash, some of the things you have wanted for a long time.

$150.00

will be given away in **cash prizes** to those representatives of Farm and Fireside who send us the most subscriptions during April—and this cash is all **in addition** to the most liberal merchandise rewards ever offered by a farm paper.

$100.00 MORE!

will be given away to those who send us the most subscriptions during May, **in addition** to the liberal merchandise rewards that every active representative will get. In April there will be 65 cash prizes from $25.00 down to $1.00. In May there are 53 cash prizes from $20.00 down to 50 cents. You can get one if you start now!

WE WANT YOU

to act as our representative in your locality. We offer you a **permanent position** and the most liberal cash and merchandise rewards. Your time is your own and no experience is necessary. You can do all the work necessary in your spare hours. Write to-day for our handsome catalogue of 250 illustrations, and full particulars—write before some one else gets the position—to

Merchandise Payment Department
Farm and Fireside Springfield, Ohio

BOYS PLAY BALL

An Elegant Baseball Outfit like this for Every Boy Who Writes Us at Once.



Boys, this outfit is a dandy—seven pieces in all: A Western League Ball; Catcher's Mitt, made from good yellow oil tan leather, well padded; the mask is firmly braced, well padded chin and forehead protection; cap any color, college style; fielder's mitt, fine quality oil tan leather, heavily padded palm; the belt is 2½ inches wide with double strap nickel-plated buckle; the bat is made from the very finest quality second growth coarse grain ash and is 33 inches long. Every piece of this outfit is made from the best material. Every boy can secure this outfit without cost. Send us your name and address before they are all gone. **Do it now.** Address

SUCCESSFUL FARMING, Box 66, Des Moines, Ia.

CORN CULTURE

In order to get a full crop of corn and to have it do its best there are three factors required. First, good seed; second, good soil, and third, frequent, but shallow, cultivation.

Unless the best of seed is used, a poor stand will be the result. And unless the seed is planted in good soil, an inferior quality of corn will be the result. Frequent, but shallow, cultivation is necessary, because by frequent cultivations the corn will reach maturity quicker, and by cultivating shallow, sufficient moisture is provided at all times; thus the corn will make a more vigorous growth than if deep cultivation is practised, which usually leaves the corn on a ridge that sometimes dries out, and the corn roots do not feed as they otherwise would.

Another advantage which is gained by cultivating frequently is that the weeds are kept down which otherwise would rob the soil of much plant food that should be left for the benefit of the corn.

A thorough preparation of the ground is a matter of prime importance, and the crop is half made if the seed bed is put in fine condition before planting. My method is to plow close and to plow somewhat deeper on rich land than on land not so good. I always plow deep enough to thoroughly turn under all weeds, grass, etc. I never burn anything on my corn land that can be plowed under without any trouble, as such refuse will decay and help in keeping up the fertility of the soil. I usually break the ground about the middle of March, and do nothing more to it until planting time. I then harrow it thoroughly until it is well pulverized, and run the roller over the surface, which puts the land in fine shape for the reception of the seed.

In planting corn, it has been my method for a good many years to list it. I do not begin planting until the ground is warm and in good condition. Planting too early, while the ground is cold, is liable to give a poor stand. The plan of listing out the ground and letting it lie a few days to warm, then planting with a planter, is excellent. To avoid unevenness in the width of the rows, I use a marker on the lister, and drive to the mark. I list forty inches apart, and use a marker eighty inches long. I list every other row this way for a part of a day, then remove the marker, and list between these rows. It can be divided very evenly without a marker.

For packing the dirt over the corn I plant as I list. I use a trough about three feet long made of galvanized sheet iron. The front end is turned up sled-runner fashion, and the sides flare out to just about fill the furrow. The bottom is not flat, but rounded upward, thus leaving the bottom of the furrow raised in the middle. It cultivates better and the water does not settle over the corn before it comes up. I weight this well and go over the corn two or three hours after planting—just as soon as the dirt will not stick.

In cultivating, while the corn is small I use narrow shovels on the cultivator, which do not throw earth over the plants, and thus enables one to get close to them. I keep all weeds down and the soil loose, thus giving the corn an opportunity to make a steady, vigorous growth. I continue the cultivation until the corn has commenced to tassel. I do not believe there is any danger of too much cultivation, provided it is shallow and not done when the ground is too wet.

Wm. H. Underwood.

Johnson County, Illinois.

THE BOYS OUR HOPE

The boys of to-day are the hope of the republic of to-morrow. We who have passed the threescore-and-ten milestone realize that the welfare of our beloved country depends upon the kind of men the boys of to-day are to be when they shall take our places in controlling its destiny.

Boys, do not be content with a visionary estimate of the great things you are "going to do," but do the little things in a better way than you have ever seen them done, and you will be wanted to fill positions of trust and profit. Don't be looking for a "pull," a helping hand or an easy job, but make a bee line for the object to be gained. "Push" will win where "pull" will fail. Resolve to lead, instead of allowing yourself to be led. Think wisely; act well your part; deal justly with all men, and you will be sure to become a leader instead of a mere follower.

Education is the great need. No one can give it to you. You must hustle for it. Boys, get a "move on you." Resolve now to do your "level best." Do not live merely to eat and sleep. All physical pleasures are of a temporal character, while those of the mind, the soul, are the only ones that are eternal. Study, read, and if you have not books, borrow them. If you have no teacher, teach yourself. Long for, aim for success, and sure reward will await you. Be not content until all that is possible is achieved. Work of the hand, of the brain, or, better, of both combined, will ennoble your manhood and yield you a financial reward.

Boys, and especially farmers' boys, you who have good health, strong constitutions and a fixed determination to succeed, cannot be beaten in life's struggle, so long as you do not become discouraged. Study, think, work. Do your best. Work out your own destiny. Achieve deserved success. The world needs thinkers and workers. Be one of these. Be glad of an opportunity to work. Work is a source of pleasure when a noble object is to be attained. Let the primary object of your life be achievement along useful lines, and this will be to you a continued source of satisfaction and joy.

"Old Observer."

GROWING FENCE POSTS

While there are several species of trees being grown for posts, the one I think most worthy of mention is the locust.

There are thousands of acres of waste land in Indiana bringing to their owners little or no income, yet the tax goes ahead just the same.

The waste land is that washy, hilly and gullied land so often met with in the rougher districts. Sometimes bushes or briers are growing on this land, sometimes a little grass or other vegetation, but commonly we see it too poor, too washy, to grow anything.

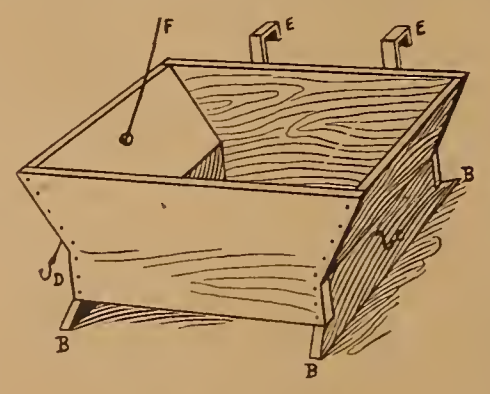
This is just the kind of soil on which it is profitable to grow locust posts. We can clearly see that as it is growing nothing that is profitable, any money made on it above the actual expenses for seedlings, labor, etc., is clear profit.

Locusts will grow on the poorest, washiest soil we have in this section, and usually grow very fast. If we set them on a hillside, they grow tall and slender and need but little pruning.

Seedlings need not cost over seven dollars and fifty cents to eight dollars a thousand, or possibly less, or they can be easily grown.

On sidling ground we can set one thousand to twelve hundred a day, so the expense of setting is not great. The pruning is not a very large item, and we are sure that in fifteen years from now, if we have plenty of trees large enough for posts, we can go and cut them cheaper than we can make cement posts, even considering the cash outlay and work on them; and as to the rent they have taken on the ground, that is just a matter of "something or nothing," as the place occupied was good for nothing else. When cut they will immediately renew themselves, which will save the cost of seedlings and setting on the second cutting of posts.

There is very likely to be a fair demand for locust posts, though cement ones should come into general use, because wood posts are easily drawn out of the ground and moved, and it is hardly possible to make every fence a permanent one on the average farm; thus fences



GRAIN-BAG HOLDER

which are moved from time to time will require posts easily moved. Cement, stone, and steel posts set in cement, may be preferable for a fence that is to stay, no one knows how long, but otherwise we much prefer good locust posts.

Omer R. Abraham.

GRAIN-BAG HOLDER

The illustration shows a grain-bag holder which may be hung on a bin or other convenient place, and may be made by any one who is able to use a hammer and saw.

The top is in the form of a hopper, and the bag is attached by wrapping its edge around the corners, B, and catching on the hook, C, in the edge on one side, then on the hook, D, on the other side, and tightening by pulling the cord, F, on hook, D, and fastening the cord by a nail on the edge of the hopper. You will find this to take only a few seconds, and the bag can be very quickly filled and never slips off.

Two hooks, E, are bolted to the bagger, thus enabling one to hang it wherever it is most convenient.

Lawson L. Chapin.



The reason why we make such a feature of our Free Sample offer in all the advertisements of Amatite is because we realize that Amatite itself is its best advertisement.

As soon as a practical man sees Amatite, he recognizes its superiority. The practical roofing buyer realizes, in the first place, that he can judge a roof's wearing qualities pretty well by the weight of it to the square foot. A thin, flimsy fabric can not possibly wear so long as a thick, heavy one.

Amatite weighs twice as much as other roofings of its price, and is tough and strong and reliable. While we could say this in



BARN AT PARK RIDGE, N. J., COVERED WITH AMATITE

our advertisements without convincing people, the sample itself will prove it instantly.

Another important thing which the sample shows is the *real mineral surface* of Amatite. This mineral matter takes all the wear of the weather and receives the brunt of wind and storm. Being mineral, it is naturally not affected by these things, and accordingly does not wear out as does paint or coating which is ordinarily used. Most ready roofings have a smooth surface of felt which has to be covered with a heavy paint or coating.

A good many roofings are painted once at the factory, so that when they are laid they will last for a couple of years without the paint. But after that time it is absolutely necessary to give them a new coating every year or two. If the coating is extremely heavy and thick, it may last more than two years; but the paint will be more expensive.

But Amatite having this mineral surface, *needs no paint whatever.* After Amatite is laid there is positively no care required of any kind. It is permanently weatherproof *without* paint.

No careful buyer would dare neglect the painting of the ordinary roofing, and people who are careful in such matters will be the ones who will most appreciate the argument that Amatite needs no paint.

You can't appreciate this mineral surface of Amatite roofing unless you see it, and that is our second reason for being so anxious to send you the Free Sample.



Amatite has all the usual advantages of a ready roofing, in addition to its special advantages. It is easy to lay, as it is sold in handy rolls of 110 square feet ready to be laid on the roof. No skilled labor is required and no special tools are called for; everything that is necessary in the way of nails and cement for laps is furnished in the center of each roll without extra charge. The nails have very large heads, which take the place of the usual tin caps; the latter, we have found, rust so easily that they do not last very long, and so we provide the large headed nails which are easier to use.

If there is any chance of your needing ready roofing within the next year or so, send your name and address to our nearest office and you will receive a sample by return mail. Then you can see for yourself what we mean by the mineral surface, and you can get some idea of the strength and durability of Amatite.



DENSMORE'S CASINO, FAIRLEE, VT., COVERED WITH AMATITE

At the same time we will send you a handsome little booklet which shows many roofs where Amatite has been used with great success. Some of these may be right in your own locality. Like the sample, this is sent without charge. Address nearest office The Barrett Manufacturing Co., New York, Chicago, Philadelphia, St. Louis, Cleveland, Cincinnati, Allegheny, Minneapolis, Kansas City, New Orleans, Boston.

Elkhart Buggies and Harness



No. 315. Light Extension Top Surrey with Double Fenders. Price complete, $78.00. As good as sells for $35 more.

are sold direct from our factory to the user. In buying from us you save the dealer's expenses and profits. **35 Years Selling Direct** is our record, and we are today

The Largest Manufacturers in the World

selling to the consumer exclusively. We ship for examination and approval, guaranteeing safe delivery. No cost to you if not satisfied as to style, quality and price. Over 200 styles of Vehicles and 65 styles of Harness. Send for new, free catalogue.



No. 656. Combination Berry with Stanhope style seat. Bike gear and extra spindle seat. Price complete, $64.50. As good as sells for $25 more.

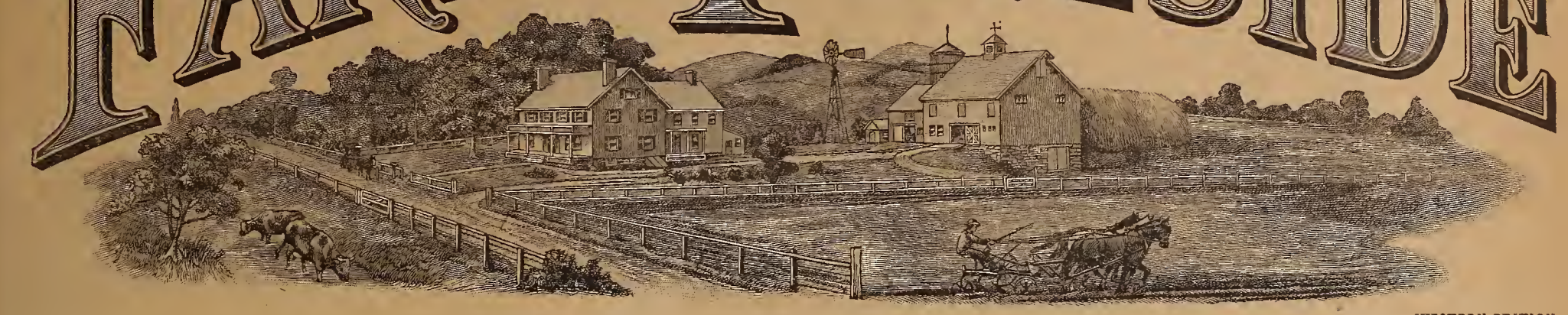
Send For New, Free Catalogue

ELKHART CARRIAGE & HARNESS MFG. CO.
Elkhart, Ind.

AN ILLUSTRATED FARM AND FAMILY JOURNAL

FARM AND FIRESIDE

LIBRARY
RECEIVED
2c
U.S. Department of Agriculture



WESTERN EDITION

Vol. XXXI. No. 14 SPRINGFIELD, OHIO, APRIL 25, 1908 TERMS—{1 Year, 24 Numbers, 25 Cents. 5 Years, 120 Numbers, $1.00.

Orchard Management

Practical Advice by W. W. Farnsworth, Horticulturist of the Ohio Department of Agriculture

THE management of a successful orchard should begin with the selection of a suitable location. The site should be elevated enough above the surrounding ground to secure atmospheric drainage, for it is well known that orchards on an elevation, even if slight, are less subject to damage from frost at blooming time. The soil must be well drained, either naturally or artificially. In the case of the family orchard, nearness to the home is a very important consideration in choosing the location.

In selecting varieties for the home orchard you may be governed by the tastes of your family and by the experience of your neighbors as to what varieties succeed under conditions similar to your own. You will want a much longer list than in the commercial orchard. A bulletin recently issued by the Division of Horticulture at Columbus, Ohio, may be secured on application, and treats so fully of varieties for the home and commercial orchard that the matter will not be discussed here.

PLANT THE TREES IN THE SPRING

When the trees are received from the nursery, do not allow them to dry out, and plant as early in the spring as the ground can be put in order. It should be put in about the same condition as for a crop of corn or potatoes.

At planting time cut off all of the top of the tree except about four branches, eight to ten inches long, no two of which are opposite each other. Failure to do this causes too thick a tree, necessitating the removal of too many side branches, and the forcing of young bearing wood out to the extremities of branches, as shown in Fig. 1.

Fig. 2 shows an example of proper pruning, except that the tree is headed too high. In the peach all of the branches should be cut off and the main stem cut back to about eighteen to twenty inches in height. This should be followed by annual cutting back of the young wood from one third to one half, in order to keep the center of the tree well supplied with young, bearing wood. Fig. 4 shows a peach tree before its annual pruning, showing the low, stocky, compact form which gives ease of pruning, spraying and harvesting, and furnishes the tree with an abundance of fruit buds, so distributed that the weight of the fruit can be born much better than if at the extremities of branches, as would be the case in Fig. 1.

The peach and grape require severe annual pruning, but other fruit trees may do with less if done annually.

Pruning is a necessary evil, and the wise orchardist controls and directs his trees in the desired way with the least possible amount of cutting.

EXCESSIVE PRUNING MAY DELAY FRUITAGE

The cutting off of the lower horizontal limbs of the apple to raise the head undoubtedly delays bearing, and severe pruning at any time when dormant is likely to cause excessive wood growth, rather than the production of fruit buds and fruit. On the other hand, the removal of any considerable amount of wood and foliage during the growing season acts as a check to the growth of the tree and encourages the development of fruit buds.



Fig. 1—Apple tree improperly pruned. Too many branches allowed to remain at planting, and young wood at extremities of limbs

During the first year after planting the trees cultivate low-growing crops, or else mulch heavily as soon as the trees are planted.

The main objects of cultivation in the orchard are to make plant food more readily available, and to conserve moisture by keeping a dust mulch, which prevents evaporation, thus increasing growth by affording a more plentiful and continuous supply of food and drink.

THE PURPOSES OF COVER CROPS

First. To check too rapid growth, and thus cause the tree to ripen its wood and buds properly, so as to withstand the hardships of winter.

Second. To protect the roots of the trees from the effects of deep freezing of the ground during the winter, by reason of the protection afforded by the cover crop itself, and the snow and leaves which it holds in place.

Third. To add humus to the soil to replace that which is made available by cultivation and eaten up by the tree in its growth.

Fruit growers all realize the advantage of growing the trees rapidly, in order that they may become large enough to produce large yields in the fewest possible years from time of planting. To accomplish this, many of them cultivate the trees, usually growing hoed crops of some kind among the trees for the first few years. These, as a rule, serve at least one of the purposes of the cover crop, in that they tend to check the growth of the tree later in the season. The tree should make the most of its growth in the fore part of the season, and this the cultivation aids.

These crops, as a rule, however, do not add humus to the soil, so if they are long continued, humus should be drawn in from outside, in the form of stable manure or straw.

KEEP THE SOIL SUPPLIED WITH HUMUS

After the first few years the ground should be given over entirely to the trees, and in fact I believe that in cases where it is difficult to obtain manure or humus, aside from that grown in the orchard, it will be better to devote the ground from the very first to growing the trees, and also to growing along with them crops of humus which will decay on or in the soil and be stored up for the use of the trees when later they begin bearing. This is one of the advantages justly claimed by those who practise true sod-mulch culture; by growing no other crops in the orchard from the beginning, the amount of humus in the soil may be greatly increased.

I have usually grown potatoes, cabbages, squashes, strawberries, currants or similar crops the first few years, and then when the trees begin to occupy a considerable portion of the ground I discontinue cropping. The soil, having been well manured, is in good condition, and if the trees are large enough to bear, and seem to be growing too vigorously to produce fruit buds, I sometimes seed to clover for a year or two to produce check enough to start bearing. The ground is then plowed shallow and cultivated until about midsummer, when a cover crop is planted. I plow as early in the spring as the ground is in good working condition, in order to preserve moisture.

Just how late the orchard should be cultivated before sowing a cover crop will depend upon the kind of fruit, the condition of the orchard and the size of the fruit crop. An orchard which seems feeble or one bearing a heavy crop may be tilled later than one which is growing vigorously or carrying but little fruit.

Where the ground is not too much occupied by the trees, a very satisfactory plan is to work the ground with plow or with disk or cutaway harrow, and follow occasionally with spring-tooth or smoothing harrow until about June 1st. Then



Fig. 2—Apple tree properly pruned, with bearing wood throughout the tree. Headed rather too high

"President Roosevelt 500 Strong"===See Page 22

drill in cow peas or soy beans in rows about twenty-four to twenty-eight inches apart, and give them about two cultivations, which will keep the orchard cultivated until some time in July, and also give the cover crop a fine start. The crop will then take care of itself and add a large amount of humus and fertility to the soil.

Where the orchard is fenced, it may be found profitable to allow hogs to harvest the beans or peas, but I am not in favor of allowing stock in the orchard.

PLANT COVER CROPS FOR FALL AND WINTER

I sometimes go through the orchard or berry field which has beans or peas growing in it, and sow turnips the latter part of July. A case of this kind is shown in Fig. 3. The first hard frost will kill the beans, and the turnips will then "possess the land" and form a cover crop for fall and winter. The Cow Horn turnip is said to be best for this purpose, on account of the subsoiling effect which its deep growth has on the soil.

The claim is made that the growing of turnips makes potash available. Whether there is any truth in this, I am unable to say, but I feel sure that the benefits from growing a crop of turnips in places where nothing else would be grown more than repays the expense.

In the case of the peach orchard which is carrying a heavy load of fruit and requires cultivation later, oats or barley are among the most suitable crops to sow, say the first of August. If it were not for the ravages of the green aphis, the Canada field peas would be much better, as they withstand hard freezing and would grow late in the fall and also add much more fertility. Crimson clover is very popular for this purpose farther south, but does not seem to gain much favor in Ohio on account, mainly, of its tendency to winter killing.

Sand vetch (Vicia villosa) is one of the best cover crops I have ever grown, although it sometimes fails to make much growth in the fall. Its advantage over red clover is that it accomplishes the bulk of its growth about two or three weeks earlier in the spring, which is a very important advantage.

VETCH IS THE IDEAL COVER CROP

In fact, the ideal cover crop should make all of its growth in fall and early winter, and preserve as great a bulk as possible on the ground over winter, and be dead in the spring, so that it may not rob the orchard of moisture in the spring. Such a leguminous crop hardly exists at present, or at least we do not know of any, but I think the vetch is in most cases the nearest approach to it with which I am acquainted.

In the case of apple orchards I have secured excellent results very cheaply by allowing the vetch to mature seed, and then on a hot afternoon in late July, when the vines were thoroughly ripe and dry and brittle, running over it with disk or cutaway harrow, lapping half. This chops up the vines and works up the soil, and a fine volunteer crop will soon spring up. Even peach trees which stood in one corner of the apple orchard showed great thrift and vigor under this treatment.

In orchards near the buildings where much poultry is kept, sow buckwheat and allow the chickens to eat it. By this method the orchard, the chickens and the owner will be benefited, and at a slight expense.

Rye has often been recommended, and while better than bare ground, I consider it one of the poorest cover crops. It is not a leguminous crop, adds but little fertility or humus to the soil, and does not afford a very heavy cover during the winter. If plowed early in the spring it does not add much to the soil, and if left to grow long it robs the trees of too much moisture, yet I would sow it if I had nothing better.

Should a crop of vetch or clover be growing in the orchard, and the fruit crop of that year fail from any cause, I would seize the opportunity and allow the crop to grow all season, and plow early the next spring.

An abundant supply of humus is absolutely necessary to secure ideal conditions for growth of tree and fruit, and the more thorough the tillage, the greater the care necessary to replenish the store of humus.

IMPROVEMENT MADE IN IMPLEMENTS FOR TILLAGE

Great improvement has been made in the past few years in implements for tilling the orchard. The ones I use mostly are the common turning plow, with a wheel to prevent running too deep, the gang plow, which turns two or three furrows ten or eleven inches wide and three or four inches deep and does very satisfactory work where there is not too much trash on the ground, and the expanding reversible cutaway harrow, which is used probably as much as all of the others combined. We follow it by the smoothing or spring-tooth harrow, with a long drawbar, which spreads the sections, leaving a blank in the middle, which is worked later. By this means the harrow runs up under the low-headed trees while the team is out in the middle of the space. The same principle applies to the cutaway.

TO RECAPITULATE

Begin cultivation as early in the spring as the ground is in condition to work well if no cover crops are growing thereon.

Do not plow or harrow deep enough to destroy roots.

Preserve the earth mulch until about mid-summer, the exact date depending on the conditions before mentioned.

Improve every possible opportunity to grow humus when it can be done without injury to trees or fruit crop.

Use leguminous cover crops as far as possible.

Be careful about allowing cover crops to grow too late in the spring, to rob trees of moisture.

POPCORN IS A SPECIAL CROP

A subscriber in Indiana asks about growing popcorn. If he can find a market for the corn it is a paying crop. Usually there is a ready market for well-grown popcorn in round lots, and the price is good. In growing crops of this sort it is a good idea to know where you are going to sell. Find the market, then supply it.

A neighbor of mine grew quite a lot of it one season, and he was two years in disposing of the crop, selling it out in small lots to grocery stores. When one secures a market for a crop of this sort he should aim to hold it. When one or more wholesale dealers know that he is making a specialty of that crop they rely upon him for their supplies, and he has a sure and ready market.

The best variety for the market is what is called White Rice. Some call it Squirrel Tooth. It is a very good yielder and a splendid popper. It should be planted about the same time as field corn and cultivated the same way. Some drill it, about two grains to each fifteen inches in the row. Others plant three to four grains in hills three feet apart. The thinner it stands on the ground, the larger will be the ears and the more of them to the stalk. The rows are usually three feet apart. Remember, popcorn is a special crop, and one should be sure of his market before attempting to grow it.

F. G.



Fig. 3—Young apple orchard interplanted with currants, with a cover crop of soy beans and turnips; the turnips are covered with straw



Fig. 4—Peach tree before annual pruning, showing the desirable form secured by proper cutting back in the past

The Small Farm is the Profitable One

Endeavor to Double the Yield Rather Than the Acres

A few days ago three brothers, all young men, bought a farm of eighty acres, paying one hundred and thirty-five dollars an acre. The owner stated his price, and they took it without another word, giving him a check for the entire amount. This makes two hundred and forty acres they now own.

I knew the boys when they were little chaps and worked with their father on a forty-acre farm he owned. One day, about twenty-three years ago, the father fell out with a prosperous neighbor, and some hot words passed between the two. The prosperous neighbor twitted him about being a forty-acre farmer, and said his boys would never be anything but hired men working for somebody else, while his would be wealthy. These words stung deeply, and father and boys set to work to wring from the soil the money to buy more land. Every penny they could get together by skilful farming was saved and put in a savings bank to draw three per cent until they had accumulated enough to buy another forty.

Thinking the boys were having a rather hard time of it, about fifteen years ago, I sent them a lot of bulletins on growing different farm crops, draining, fertilizing and improving the soil, feeding stock and many other matters connected with successful farming. Passing their farm two years later, I noted that they were following the teachings of the bulletins, so far as possible. I had no idea that they were accumulating money as they were.

Both the old men who quarreled have gone to their last rest, and the boys of the prosperous man are holding their own, and steadily, but more slowly, adding to it. They are married and have nice carriages. The other boys are not married and have nothing to do with young ladies. They have no carriages, no luxuries of any kind, but are grimly following the father's methods, and his last instructions to "get able to buy the other neighbor's boys out" as soon as possible.

The increase in their holdings of land enables them to make money fast now, and in a few years they will be wealthy. They are not fiery rushers in the field and about their homes, but just plain, steady plodders. They are out early and stay out late, and while out, keep plodding. They now are buying the latest improved machinery to enable each to do more work and raise larger crops, and most of their methods are right up to date. They are now fixed to make money three times as fast as they have been doing, and one can plainly see what the outcome will be.

What will they do with it? I don't know. They will soon have the satisfaction of knowing that they are richer than the sons of the neighbor who twitted their father about being poor. This satisfaction will be intense. After a time they will pass away, and the property will again be scattered.

I frequently hear farmers say that it is next to impossible to make any money now; that hired help is next to valueless, and they have to work harder, and their expenses eat up all of their income. They might take a lesson from these three little plodders, all under-sized men, and learn how to make a farm pay. It is the steady plodder who works his brains as well as his hands who accumulates.

Frequently I meet a farmer who has a small farm, thirty to eighty acres, who thinks that if he had more land he would have a chance to make some money. The fact is, his ideas are larger than his farm, and instead of trying to double the yield he is trying to get more acres.

I know a man who owns only thirty-six acres, and he is so hemmed in by wealthy landowners and entailed estates that there is no possible chance for him to buy more land in his lifetime. Instead of fretting over being caged up as he is, he went to work to make his soil produce the largest possible yield.

Not long ago I had some dealings with him, and we privately talked over our circumstances, and he showed me proof that he has nearly ten thousand dollars in a savings institution drawing interest. Said he, "When I saw the folly of wanting more acres that I could not get, and reduced my ideas to the size of my farm, I began to make money. In three years I doubled my income, while my expenses increased very little. I have made quite a lot of money from so small a farm as this is, and I am gradually taking things easier. But I shall not leave the farm. Wife and I have lived here all our married life, raised our children here, and here we will stay to the end." Fred Grundy.

A SEED-CORN PATCH FOR EACH CORN GROWER

Under average methods of seed selection and field conditions there is from year to year more or less deterioration in all varieties of corn. This "running out" or "losing in quality and producing power" of a variety is largely due to mixing and careless selection.

Corn growers are also finding that much trouble and loss is resulting from seed corn harvested late in the fall. They recognize that the best results can be obtained only when the seed is selected early and stored in a proper manner. For these reasons corn growers should employ methods in selecting, planting and harvesting which will give seed of the highest quality and strongest vitality.

One way in which every corn grower can do much to improve and maintain the quality in a variety of corn is by planting a seed-corn patch. For this patch he should select about twenty-five of the best and most typical ears of corn of the seed to be planted this year. A germination test should be made of each ear, in order that no weak ears may be planted. Shell off and discard the small and irregular butt and tip grains. Then shell the ears together and mix thoroughly.

At the usual time of planting, plant this corn on the south or west side of the field to be planted with the same variety. This location should be changed if it is near a field planted with another variety. Give this patch the usual good cultivation, keeping the ground free of weeds and preserving a loose soil mulch.

When the corn is five or six inches high go through the patch and remove all weak or backward plants. Also, when the tassels begin to appear, go through and remove them from all stalks which are either weak, barren, smutted, badly suckered or for other reasons undesirable

When the corn is mature and not later than October 15th, the seed should be harvested. Select the seed ears from the strongest stalks with a large leaf development and those bearing the ears four or five feet from the ground and holding them in a right position.

Through the seed-corn patch the farmer can do much to fix a desirable type in his corn and to reduce the number of barren, diseased and suckered stalks that appear in his field. It also furnishes him a convenient place from which his seed corn in the fall can be selected, and he knows that it is from the best seed that he planted. G. I. Christie.

Purdue Experiment Station.

The Farmer and the Experiment Station

Keep in Touch With Your Station, and Be an Experimenter, Too

I like to keep in touch with our own experiment stations. We have two in New York State. Often when I get into a corner, when some unforeseen emergency or problem arises that my own experience does not enable me to meet or solve, I go to the experiment stations with my troubles, or possibly to the Agricultural Department at Washington, D. C., and I am sure to find attention and advice.

Many farmers do not seem to be aware of the fact that the stations are ready to help them in such cases. Of course, we cannot expect that the station expert will give you advice in regard to what crops you should raise, or to tell you what crop is the most profitable, and how much of this or that you can raise on an acre, or how much money it will bring you. In all these things, and in the general business management of the farm, the station can be of no help to you. But when you have special troubles, especially with insects, plant or animal diseases, feeding or fertilizing problems, the station is often able to give you material assistance and information.

At the fruit growers' meeting held in January at Syracuse, Director Doctor Jordan, in a formal address on "Twenty-Five Years of Station Work," gave his views on the proper functions of the station. Some farmers consider the station as a publishing bureau to issue literature reviewing what is known about the entire round of agricultural practise, and to furnish an agricultural library free of cost. Others regard the station staff as a corps of expert farm managers who should visit, upon call, any locality in the state to lay out and direct a system of management of a particular farm. Others take the station to be a general service laboratory where analyses of anything under the sun, from glittering minerals to soils, fertilizers and feeding stuffs, are made upon request. Still others believe the station to be an educational bureau and the members of its staff chiefly engaged in speaking and writing.

The Geneva station, like most others, however, has constituted, ever since its establishment, what may properly be called a bureau of information. It has answered perhaps twelve to fifteen thousand letters a year. Farmers have been greatly helped thereby in many instances. Doctor Jordan says that the station staff has become, as it should, a body of scientific experts, each man devoted to the pursuit and use of knowledge in some special line. He believes that a sensible understanding quite widely prevails as to the relation of the station to agricultural practise.

The leading farmers of the state, those that set the standards in agriculture, see very clearly, he thinks, that they must manage their own business, and largely take the initiative in the development of their own farm methods. They seek the aid of the station in the settlement of various single problems that confront them, and when they get the desired knowledge they weave it into their business methods.

This should give to the farmer some idea in what cases he can properly appeal to the station for light and help, and in what cases he must depend on himself and on his own efforts.

NEW CREATIONS FOR PROFIT

It does not require a Burbank's skill to bring out "new creations." Any man can work in certain lines and make a hit. This may be in the undertaking of seedling fruits, such as strawberries, raspberries or tree fruits; or it may be in raising seedling potatoes, etc.

The potato perhaps offers the best and easiest chances for experimenting in this line. I have at various times grown large numbers of seedlings from the true seed obtained from seed balls. This is interesting work. We readily obtain hundreds or thousands of such seedlings, each representing a variety of its own. But I cannot claim that it pays.

A person who happens to draw a prize in a lottery may claim that it pays to invest money in lottery tickets. Those who habitually draw blanks will not think so. Raising potato seedlings or strawberry or peach seedlings may be very fascinating and interesting, but the chances of obtaining something of commercial value that will repay the experimenter for all his labor and expenses are fewer than those for winning a big prize in a lottery.

Luther Burbank is pretty nearly the only plant breeder in America who has had honors and more substantial rewards showered upon him for his unceasing and skilful efforts in such work. But here is the case of Jacob Moore, who died in Canandaigua, New York, a few weeks ago at the age of seventy-two. Mr. Moore was an enthusiastic breeder of new fruits, and he spent a comfortable fortune, left him by his father, in his efforts to produce improved varieties by making crosses and hybrids. He succeeded in giving to the world such fine new fruits as the Red Cross currant, the Brighton and Moore's Diamond grapes, Barr's Seckle pear, and many others. Valuable as these and others of his productions were, he received but little for them, and died in absolute poverty.

IMPROVED PLANTS THE RESULT OF DISCOVERY OR SELECTION

Most of our improved fruits, vegetables and other farm plants, however, were not the result of creative effort, but rather of either chance discovery or careful selection. Many of them have paid their discoverers quite well. The Fay family, for instance, received a good many thousand dollars from Mr. Josselyn, of Fredonia, for the stock of Fay's Prolific currant.

Even if we do not receive large cash returns for any pains we might take in preserving a good fruit, vegetable, grain, potato, etc., which we have happened to come across in our fields or gardens, we will enjoy the possession of such superior product, and reap some profit therefrom. It is quite frequently the case that people find a really good thing, enjoy it for a season, and then neglect to preserve it. There are as big fish in the sea as were ever caught, and as good things in the fields and home gardens of the country as were ever brought into general cultivation. If you have any such, save them and pass them along.

A reader tells me he has a new first-early potato which he discovered by accident, a potato better in many respects than our present standard early varieties, Irish Cobbler not excepted. If that is true, he has something worth money. Should proper tests verify the claim, there will be some one willing to give a reasonable, if not extravagant, price for it.

T. Greiner.



Photo by Verne Morton

WHEN THE APPLE BLOSSOMS FALL

One of the things the young people on the farm have a chance to enjoy

GROWING RAPE

Rape is not grown as generally as it deserves. It can hardly be surpassed as a pasture and soiling crop for hogs and sheep, or even for horses and cattle, especially when a quick-growing, annual crop is desired. It offers summer and fall pasture of the highest order with spring seeding, something that can be claimed for very few other plants. It can be grown on almost any soil that will produce a good crop of roots, and can be depended upon to furnish very heavy yields of most excellent food. In feeding value it is as good as clover, and can be used for either growing or fattening purposes with success. Rape is a feed that stock like exceedingly well after they have once become accustomed to it, and the results from its use are always pleasing.

It can be sown any time after spring weather has permanently arrived, as early as any of the grain crops, and thereafter until the end of summer. This wide range of seeding allows almost continued soiling from this one crop from early summer until the end of autumn. The plant usually requires from eight to ten weeks to complete its growth. It may be fed or pastured as soon as its development will justify, and if not cut or pastured too closely it will grow up a second and even a third time.

In seeding the crop broadcast, from three to five pounds of seed are required to the acre. If sown in drills, from one to two pounds of seed will be sufficient. The quality and condition of the soil will govern the exact amount, lighter seeding being used on rich and clean ground. The condition of the seed bed should be fine, firm and moist. A light top dressing of manure may be applied, and the crop responds very readily to such treatment. As a soiling crop it is desired to secure all the growth possible, so the more perfect we can make the conditions, the greater will be the results.

There are several varieties of rape, but the one which possesses the most economic value is the Dwarf Essex. The seed may be secured from any of the seedsmen advertising in Farm and Fireside. The crop is worthy the attention of any farmer who wishes a good supply of valuable summer soiling feed.

Wm. H. Underwood.

THE OHIO CORN IMPROVEMENT ASSOCIATION

The growing interest in the corn plant that is being manifested by the farmers of the great corn states is the natural result of the higher level of prices paid for corn and the rapidly advancing price of all good corn land. We are just finding out that there is only one great corn belt in the world, and that Ohio is one of the favored states, in that it is located in that belt.

Corn seems to be the only great grain crop that is so local in its habitat. When we see the great areas that are being opened to the growing of wheat in various parts of the world we are inclined to believe that the time is not very far in the future when the price of wheat and corn will be practically the same a bushel, one year with another, and that that price will be determined largely by the feeding value of each. If this should be the case, an acre of good corn land will sell for three times the amount that an acre of good wheat land would bring, because three times as many bushels of corn can be grown to the acre.

The history of the last forty years proves this proposition. In 1870 the highest-priced lands in Ohio were the wheat lands, but to-day the best corn lands are worth twice what the good wheat lands, that will not grow corn well, are worth. This being true, it is little wonder that we became interested in things relating to the improvement of this important crop and began to study methods of culture and production of varieties that would give us an increased yield.

Six or seven years ago a few men began to believe that varieties of corn might be developed by scientific methods that would produce larger yields under the same conditions. The methods most used were either to control fertilization or to determine the heredity of single ears by planting an "ear to row" plat and then perpetuating those that had the ability to produce large yields. Out of this work grew the Ohio Plant Breeders' Association, which proposes by record to preserve the work done by its members, and by "certificates of registry" to protect them in the results of their work.

PROGRESS HAS BEEN SLOW

Considerable progress has been made along this line of work by our experiment station and by a few earnest co-workers among the farmers of our state, but no large number of farmers will take up the work of scientific "corn breeding," as it requires too much work and too careful records for the average corn grower. For this reason all of the great corn states have organized corn growers' societies, in which all that is necessary to membership is that you be a grower of corn or interested in the growing of corn.

We find, in looking over the constitutions of the societies of the other states, that in the most of them the only requisite for membership is that the applicant be a corn grower. But the committee in preparing the constitution for the Ohio society thought it best to take broader grounds, and said that any one interested in the growing or utilization of the corn plant in Ohio could become a member. We believe this gives increased strength and a much greater chance for usefulness, as it unites the grain grower and the grain dealer in the effort to improve the crop in which both are so much interested.

DEALER AND GROWER MUST CO-OPERATE

The great necessity for these two classes to work together for better corn is found in that when it comes to market condition of corn Ohio is at the foot of the list of the seven great corn states for no other reason than that too little attention has been paid to seed corn planted or varities used.

The Ohio Corn Improvement Association was founded on the fifteenth day of January, 1908, at Townshend Hall, Ohio State University. One hundred and sixty farmers and grain dealers, representing fifty-four counties of Ohio, were present. An all-day meeting was held, in which the proposed constitution was very thoroughly discussed before being adopted.

The plan outlined is that the state society be a great representative society composed of delegates from the local societies, which may comprise either a county or part of a county, each local society having as many delegates as it has multiples of ten members. The initiation fee has been purposely made very small, twenty-five cents admitting to both local and state societies.

Horatio Markley.

NEWS-NOTES

If the American farmer is to take advantage of the market quotations he must extend his range of information so that it will be world wide. The "Crop Reporter," which is published monthly by the United States Department of Agriculture, contains much reliable matter relating to the crops and the markets in all foreign countries.

The attendance at farmers' institutes is rapidly increasing. Those held in 1906 were attended by hundreds of thousands of farmers, and the number was greatly increased in 1907. As a result the farmers have been greatly benefited by putting into practise the methods indicated by scientific research and made known by the lecturers who have given them a practical test on their own farms. *

A BLUE MARK

in the square below indicates that you are an old subscriber and that *your subscription expires this month.*

Renew at once by accepting our offer on page 22.



STEVENS

FIREARMS

For Game or Target

Nothing trains a boy's eye, steadies his nerve, gives him a cool head, and teaches him "gumption," like handling a rifle all his own.

You can show him how to do it, and in addition he will receive valuable hints and suggestions from our

FREE 160 Page CATALOG

Illustrates and describes all kinds of shotguns and rifles for men and boys, for target, trap and field shooting. Shows how Stevens Arms are made and gives information that every man and boy ought to have. Sent FREE for 5c. in stamps to pay postage.

Little Scout, - -	$2.25
Stevens-Maynard, Jr.,	3.00
Crack Shot - -	4.00
Little Krag - -	5.00
Favorite, No. 17, -	6.00

If your dealer can't supply Stevens Arms, write to us and we'll arrange it for you.

J. STEVENS ARMS AND TOOL CO.
265 Front Street
Chicopee Falls, Mass., U. S. A.

WANTED

A man or woman, boy or girl in every town or settlement to act as official representative of FARM AND FIRESIDE. Steady employment, and no experience necessary. The most liberal merchandise rewards, and large cash prizes every month. Spare time may be profitably utilized. Territory unlimited. Acting as our representative is a most dignified employment, and you are well repaid. If interested write for our big, free catalogue, to

Merchandise Payment Department
FARM AND FIRESIDE
SPRINGFIELD, OHIO

THIS DOOR 69¢



FIND OUT WHAT your home dealer gets for 2x6-foot 4-panel SOLID YELLOW PINE DOORS.
Before you build get our prices on doors, sash, windows, mouldings, roofing, etc. These important things you will have to use in building. You will find we will save you about one-half in cost. We will gladly furnish, without one penny's cost, such architect's complete plans and specifications as an architect would charge you at least $100.00 for. It will help your carpenter immensely and make an ordinary $1,000.00 house cost about $700.00. For full particulars look under the head of "Mill Work" in our Big Catalogue. If you haven't one, borrow your neighbor's; otherwise in a letter to us say, "Send me your Great Mill Work Offer." Address, SEARS, ROEBUCK & CO., CHICAGO

Get The Fast-Digging IWAN POST AUGER



Throw away that old spade and use the double blade, fast-digging Iwan Post Auger which bores right into the hardest clay, gumbo, sand or gravel. Saves twice its cost the first week. No trouble to unload. Always sharp and lasts forever. Money back to you if you don't find it the best Auger you ever saw
Send to-day for FREE book "Easy Digging," and learn all about the scientifically made, tempered-steel Iwan Post Auger.
IWAN BROS., Dept. H, Streator, Ill.

SAW MILLS

All sizes. Most work with least power and smallest crews. All latest improvements. Also Edgers, Trimmers, Planers, Shingle and Lath Mills, Cut-off and Rip Saws, Feed Mills, etc. Send for fine free catalogue.
American Saw Mill Mach'y Co.,
130 Hope Street, Hackettstown, N. J.
602 Engineering Bldg., New York City.

Review of the Farm Press

SOILS AND FERTILIZERS

Our farmers spend a hundred million dollars a year for fertilizers, and Secretary Wilson asserts that one third of this amount is thrown away. If certain sections of land do not produce crops as they should, the one remedy that occurs to most people is to buy fertilizer. More is being bought every year. The quantities used are enormous, and the employment of this agent is extending steadily. Thirty million dollars is annually wasted in this way—and this is due not to any deficiency in the fertilizers themselves, but to a lack of understanding of the proper fertilizers for the different soils.

This is a relatively new problem in agricultural economy, and it is likely that the investigations now being conducted by the United States Bureau of Soils will lead to surprising results. One of the recent discoveries revolutionizes that ancient idea that certain crops so exhaust the soil that the following crops do not flourish. The new theory is that it is not what a crop takes from the soil, but what it puts into it, that injures the succeeding growth. In other words, there is an excretion from plants which, unless counteracted, is noxious to other crops. The chief of the Bureau of Soils, in a recent report, gives interesting explanations of the manner in which soils actually feed crops and the influence of fertilizers upon this feeding.

As everybody knows, all soils contain more or less minerals, including those necessary elements for plants, potassium, phosphorus and calcium. The nitrogen has to be obtained elsewhere. These minerals are dissolved in the soil water, and fed the plants; and as those on the surface are absorbed, there is movement upward of moisture from below, bringing further food supplies. Thus the soil is in a sense steadily enriched by these desirable constituents, although the actual feeding medium for the plant is not essentially altered. Similarly, artificial enrichment of the soil by commercial fertilizers does not materially affect the mineral composition of the soil solution, as is popularly supposed, but has other profound functions of which we are just beginning to get a glimpse.

As above noted, infertility of soils is often due to the presence of bodies deleterious to plant growth, and the bureau has discovered exactly what some of these substances are, and the proper means of fighting them. It is the presence of these bodies that causes some fields to become "exhausted," as we have been in the habit of saying, or to fail to produce certain crops. The question to determine in this case is just what crop is adapted to the land, to act as a corrective—a kind of medicine for the noxious bodies that are in the soil. Crop rotation—with the proper crops—is especially valuable, as different species of plants themselves aid in the destruction of deleterious organic substances. The proper fertilizers, too, are most valuable.—Farmers' Tribune.

IMPORTANCE OF SEED SELECTION

A matter which should receive the most careful attention on the part of the farmer is the matter of seed selection. The utilization of cull potatoes, foul grain and grass for seeding purposes is, like the planting of low-grade fruit trees, a serious mistake and one which always leads to unsatisfactory results. In short, the success of any crop rests primarily in the character of the seed we employ.

The influence of seed selection is well shown by consideration of the development and perfection of the sugar beet. The ordinary garden beet contains from four to five per cent of cane sugar. By careful selection of seed from exceptionally rich beets, the sugar content of the average beet delivered at the factory has been increased to from fifteen to sixteen per cent, and individual beets are found with a sugar content of as high as twenty per cent.

At the Illinois station, in the same way, corn of high starch content, for the manufacture of starch, glucose and alcohol, and of high protein content for feeding, has been developed. At the Oregon station also a vetch with high protein content is being obtained by this process of selection.

The grade of a seed depends in the first place upon its vitality or power to germinate, and secondly upon its purity or freedom from foreign seeds.

The germinating power of the seed may be conveniently tested by placing a definite number of seeds between two layers of Canton flannel in an ordinary plate, moistening the flannel and inverting over this another plate, to prevent evaporation. If kept in a warm place (seventy to eighty degrees), after four to six days the germinated seeds may be counted and the percentage of germination determined.

The vitality of the seed is largely influenced by methods of curing, age, etc. Records show that only three per cent of ten-year-old clover seed germinated, whereas ninety-five per cent of good seed will grow. A large acreage of Alberta wheat was a complete failure last year, due to wheat fresh from the thrasher being used for seed before it had properly cured.

Probably the greatest amount of adulteration occurs in the small grass seeds. At the Maine station as high as sixteen per cent of foreign seeds were found in alfalfa and clover seed. These impurities are usually seeds of noxious weeds which by this means are carried far and wide. The presence of foreign seeds may be detected by pouring a small quantity of the seed to be tested on a piece of white paper and examining with a small magnifying glass.

The purity standards of the United States require clover and alfalfa to be ninety-eight per cent pure, with a germination of eighty-five to ninety per cent. Oats and wheat ninety-nine per cent pure, with a germination of ninety to ninety-five per cent. In foreign countries these standards are somewhat higher.

In Maine all packages of agricultural seeds for sale must by law be labeled as to purity. Kentucky, Florida and Connecticut also have pure-seed laws. The demand for pure seed should go hand in hand with the demand for pure foods, drugs and fertilizers.—Oregon Agriculturist.

CONCRETE FLOORS

Too much care cannot be exercised in preparing the foundation for a concrete floor. This should always be well drained and firmed to a depth of from six to eight inches below the concrete,

At the Colorado Agricultural College we find that it pays to thoroughly tamp this foundation before putting on the mixture. If the soil contains a great deal of clay, it may be necessary to remove part of it and to fill in with broken stone, gravel or cinders to within four or six inches of the proposed finished surface, depending on the thickness of the floor. Blind drains of coarse gravel or tile may be laid from the lowest points in the excavation to carry off any water that may accumulate beneath the structure.

For the construction of the ordinary stable or barn floor, which is not to carry any great weight, the following proportion is to be recommended for the concrete base: One part cement, two and one half parts clean, sharp sand and five parts loose gravel or broken stone. This should be finished on the surface with a one to one and one half inch layer of a mixture of one part cement and one and one half to two parts clean, sharp sand. The total thickness of this floor must be from five to eight inches, depending upon the load it has to carry.

For engine foundations, floors or driveways over which heavy loads pass, the following proportion is to be recommended: One part cement, two parts sand and four parts broken stone or gravel.

For all large floors it is advisable to place the concrete in sections not to exceed six feet square. This may be done by placing a two-inch plank of a width equal to the desired thickness of the floor on edge as a box, in which the concrete is tamped until water begins to show on top. Make several of these forms, holding the plank in place by means of stakes driven into the under surface. These stakes should be driven on the outside of the form, so they may be easily removed after the concrete has set and the planks have been taken out. Fill alternate forms at first, tamping the concrete thoroughly, especially the edges. On the same day, as soon as the concrete has set, remove the crosswise plank and fill in the forms not filled at first. Mark the side plank to show exactly where the points come.

The finishing coat should be spread on before the concrete has set. To make this of uniform thickness it is best to place either one or one and one half inch wood strips, as desired, on top of the concrete, over which a straight edge may be run. Smooth with a trowel for a smooth surface, or with a wooden float for a rough surface. Groove exactly over the joints of the concrete, so as to bevel the edges of the block.

Do not trowel the surface too much until it has begun to stiffen, as it tends to separate the cement from the sand and injures the wearing surface.

The floor should be constructed with slope enough to carry all liquids to certain points from which they may be drained.

Protect the new floor from the direct rays of the sun, currents of air and frost, and keep constantly moistened for several days. Water is very important in the curing of concrete constructions and must be used liberally.

Use nothing but the best cement that can be obtained. The sand should be clean, sharp, and not fine; it should be free from loam or clay, as these will tend to destroy the adhesive quality and retard the setting of the cement. Use clean, pure water for mixing. Mix thoroughly. Tamp thoroughly. Water thoroughly.—H. M. Bainer in Colorado College News Notes.

BREEDING DRAFT HORSES

I breed and raise draft horses for two objects—pleasure and profit. If I had to get along in this business without enjoying any pleasure in doing it, I would quit. Of course, it goes without saying that if I had to get along without the other essential, I would have to quit the business. And I want to lay down this proposition as a maxim, if a man gets no pleasure out of a vocation or business, he will get mighty little profit out of it. The pleasure is in achieving success, in producing horses of superior excellence, in making the business a blessing to the community, in demonstrating results of scientific breeding and skilful handling, in raising the standard of your own efforts and in leading others to higher aspirations.

I had rather have the distinction of breeding, raising, feeding and fitting an international champion than the honor of a high office. And my achievement would be worth as much to the great producing class of people, yea, much more, than is the achievement of some so-called statesmen who cannot see above their environments far enough to realize the dignity and importance of the American farmers and breeders.

To handle brood mares and stallions, to feed and develop the progeny, in short to direct and manage the delicate problem of the mystery of life, to get good results from the law of heredity, to mate and manage, to grow and groom, so as to reach the best results, calls for intelligence, study, skill, patience, persistence. No bungler can do it.

To know what is a good horse is alone a great accomplishment. Few breeders even are first-rate good judges. They see excellence in their own animals when they ought to see faults and strive to correct them. A man must rise above narrow things if he would be a leader and a successful breeder.—W. L. Houser in The National Stockman and Farmer.

USES OF THE WOOD LOT

A farm without a good wood lot is incomplete. In general not less than one eighth of the total acreage of each farm should be devoted exclusively to timber growing. If properly managed the wood lot will supply the farmer with posts, fuel, building material, and some timber for market.

Every farmstead should be provided with protection from winds. For the live-stock grower, shielding the barn yard and feed lots will economize the grain necessary to fatten animals, since less food will be required to maintain the body warmth of the stock in winter. In summer a small part fenced off from the wood lot will afford cool shade to fattening animals, which lose flesh in very hot weather. A belt of forest trees will greatly reduce the danger of late frosts to the fruit blossoms of an orchard.

The wood lot should occupy the waste land not suitable for farm crops. Steep hillsides, ravines, swamps, sand dunes, creek banks, rocky slopes, and corners cut off by ditches, creeks or railroads, will sustain a good growth of timber and become an important source of revenue. Forest growth on steep slopes and river banks protects them from erosion by heavy rains and freshets. On a farm without waste land the wood lot should be so located as to afford the best protection. Strips at least five rods wide should be maintained along the windward side—usually the north and west—and in addition there should be a shelter belt around the house and farm buildings. —Forest Service Circular No. 138.

When setting trees, trim off all bruised roots with a sharp knife, leaving a smooth, clean edge which will heal rapidly and send out new feeding roots in a short time. A broken or bruised root will decay and be a damage to the tree. When a tree has lost a portion of its roots, a like proportion of the top should be removed. If but a few of the roots have been removed in being transplanted, it will not be necessary to do more than thin out the top and balance the symmetry of the tree.—Farm Journal.

WE GUARANTEE
THE WORLD'S STANDARD ASPHALT ROOFING
to last *years longer* than any other prepared roofing in the world—
"We guarantee that this roofing will *never* need recoating or painting of any kind and that it will last from 10 to 15 years, if properly laid."
It is the *only* roofing of which the first cost is the last expense—
We alone make it—
We alone sell it directly to the public only—
We have 14,000 roofs in Chicago alone. A boy can lay it. Nails and cement included with roofing—
Write today for our full guarantee, our samples, and our booklet *"THE SQUARE DEAL,"* which will inform you about every imitation roof on the market—
It will pay you to at least get our figure before ordering—
ELABORATED READY ROOFING CO. (INC.)
1401 La Salle St. CHICAGO, ILL.
THE OLDEST AND LARGEST ASPHALT READY ROOFING FACTORY IN CHICAGO

THIS
O.I.C.
SOW WEIGHED 932 LBS. AT 23 MONTHS OLD
IONIA GIRL
I have started more breeders on the road to success than any man living. I have the largest and finest herd in the U. S. Every one an early developer, ready for the market at six months old. I want to place one hog in each community to advertise my herd. Write for my plan. "How to Make Money from Hogs."
C. S. BENJAMIN, Masonic Bldg., Portland, Mich.

ORNAMENTAL WIRE AND STEEL FENCE
Cheaper than wood, combining strength and art. For lawns, churches, cemeteries. Send for FREE CATALOG. Address The Ward Fence Co. Box 625 Decatur, Ind

AN OPPORTUNITY
to get your own subscription without a cent of cost is offered to every reader of Farm and Fireside. Just send us two *other* subscriptions to Farm and Fireside at 25 cents each—that's all you have to do. You can easily get two of your friends or neighbors to subscribe. Then you will get your own subscription without cost.
Address FARM AND FIRESIDE, Springfield, Ohio

Agents Wanted

OUR MEND-A-RIP SALESMEN Make $3 to $5 a DAY
One makes $1,500 a year! Why not you! Catalog and particulars sent free. Write Today.
FOOTE MFG. Co. Dept. 201, DAYTON, O.
The Great Agents Supply House, formerly of Fredericktown.

Agents $103.50 per month selling these wonderful Scissors. V. C. Glebner, Columbus, O. sold 22 pairs in 3 hours, made $18; you can do it, we show how. Free Outfit. F. Thomas Mfg. Co., 51 K. St., Dayton, O.
SELF SHARPENING THIS DOES IT ALL CUTS TO THE END.

$3 a Day Sure Send us your address and we will show you how to make $3 a day absolutely sure; we furnish the work and teach you free, you work in the locality where you live. Send us your address and we will explain the business fully, remember we guarantee a clear profit of $3 for every day's work, absolutely sure. Write at once.
ROYAL MANUFACTURING CO., Box 945 Detroit, Mich.

AGENTS—$75 Monthly. Combination Rolling Pin. *Nine Articles Combined.* Lightning seller. Sample *Free.* Forshee Co., D23, Cincinnati, O.

AGENTS $300 Every month selling our wonderful SEVEN PIECE KITCHEN SET
Send for sworn statement $12 daily profit. Experience unnecessary. Outfit free. F. Thomas Mfg. Co., 751 K. St., Dayton, O.

10 Illustrated Pictorial Song Post Cards, latest novelty. Each card contains words of a popular song, beautifully and appropriately illustrated in bright and handsome colors. All different. 6 other samples and price list free with order. C. Day, Box 29, New Market, N. J. 10c

2941 Hidden Name, Friendship, Silk Fringe, Envelope and all other kinds of CARDS and Premium Articles. Sample Album of Finest Cards and Biggest Premium List, all for a 2 cent stamp. OHIO CARD COMPANY, CADIZ, OHIO.

25 COMIC and GOOD LUCK POST CARDS mailed for 10c
You can easily sell them at 2 for 5c.
CENTRAL PUB. CO., Dept. F, Springfield, Ohio

20 Post Cards 10c All different. Fine views and comics. Retail up to 5c each. All prepaid with big catalog for 10 cents. 3 lots 25c. BANNER CO., 1071 N. FAIRFIELD AVE., DEPT. 5, CHICAGO.

Review of the Farm Press

SOME WILL FAIL

The city man who thinks it easy to farm successfully, and that successes of the best farmers are within easy reach, does not realize what kind of a proposition lies before him when he turns to land for income. It is just as easy for a farmer to become a successful merchant or banker as it is for a man ignorant of the country to become a successful farmer. The only difference is that there is less danger of losing one's capital while learning—the mistakes will be about as grievous in one case as the other. All of us, country and town alike, need to realize that good farming means the possession of a lot of skill on the part of the farmer—good skill of which the possessor may well be proud, and which the novice cannot get without study and experience.

The city man who is willing to pay for his education as a farmer, either by paying cash for his costly mistakes or else living close while working hard until apprenticeship is over, may do well to gratify his liking for the country. There is profit in good farming, and there are opportunities for enterprising men. But the other sort of people, failing to appreciate the skill of a majority of farmers and believing that some theories they have picked up will be all-sufficient, are likely to be disappointed and to make a failure. Farming to-day requires a high degree of skill. This is written not to discourage novices, but to state facts as they are.—Alva Agee in The National Stockman and Farmer.

◈

PRUNING FRUIT TREES

Fruit trees should be pruned once a year. The following suggestions will be of aid in this work: Winter pruning in this or more severe climates is often injurious to fruit trees. The bulk of pruning should be done early in the fall as soon as growth matures, or at the end of the winter before growth begins.

All forks should be removed, or all except one be cut back severely, in order to throw the most vigorous growth in the other part. All dead twigs should be removed, also those that have become weakened and are likely to die within a year or two. Branches growing toward the center of the tree from outside limbs should be cut away, and those growing near enough together to rub each other.

All cuts should be made smooth enough so as to have the wound as small as possible, and also give a chance for healing over in the shortest time. Stubs from one fourth to several inches in length should never be allowed, as they soon die, injuring the heart of the tree.

By giving annual pruning and removing the limbs that are likely to become out of place, it should not be necessary to remove heavy limbs, which is often injurious to the tree. It is sometimes necessary to do summer pruning, which should be done usually in the early part of June, but no large proportion of the tops should be removed at this time of the year. All heavy pruning should be done when the tree is dormant.—H. R. Cotta in The Farmers' Review.

◈

WHAT CONSTITUTES A HOG PASTURE?

This is one of the features of farm operation that does not seem to be well understood by farmers and hog raisers, or else there is a great difference of opinion as to what are the requirements of such an enclosure. Hog raisers generally have educated themselves up to a belief that the hog pasture is a factor in present-day hog raising that is practically a necessity. There does not seem to be much dispute on the propriety of the adoption and use of this term, in speaking of the enclosure where the hogs are to run, especially through the summer months. Any kind of an enclosure, an outlet from the hog yard, is called a pasture.

These pastures consist of lots or enclosures of almost all sizes from a half acre up. As much as forty acres are sometimes devoted to the use of the hogs as a pasture and open run. These pastures vary greatly in character, especially as to the one important feature, in the feed they supply in way of pasture. There is a great difference between an exercise lot and a hog pasture.

The hog pasture, as it is found to-day on the hog-raising farm, ranges all the way from a rag-weed and cockle-bur patch to an alfalfa field. It is a fact, in explanation of this condition, that there are too many hog raisers who do not know that there is any special difference in the feed value of grasses for hogs. A mixed pasture of blue grass, timothy, red clover, brome grass and white clover, it is argued, is just as good as alfalfa, and better, because it affords variety, so the hog can have its choice.

Such mixed pastures are not suited to the hog. The hog wants fresh pasture. It does not graze like the horse, cow or sheep. The hog is best suited when it can bite off a clover bloom or a sprig of alfalfa. It feeds liberally on pasture, but does not from choice like to feed on a thick, heavy coated blue-grass sod. It objects to moldy, wet or soured grasses, such as the blue-grass and white-clover pastures so frequently afford when not closely eaten off.

One of the greatest features of advantage with the alfalfa as a hog pasture is the fact that it affords fresh growth all through the pasturing season. The alfalfa hog pasture should be mowed at least three times each season, thus taking off all the matured stems and giving opportunity for the sending up of a new growth of tender, fresh grass, just the quality the hog delights to feed on. It is this new, fresh alfalfa that makes this variety of pasture so generally preferred by the hog and so highly satisfactory as a flesh former.

The importance of a good hog pasture of alfalfa or red clover is so urgent in matter of health and growth of the hog that the hog owner cannot afford to substitute an exercise lot for it and then hope to grow hogs in profit equal to his neighbor who is properly fixed. Alfalfa is the hog's favorite pasture, and it produces more growth of pork than any other in a given time. These two reasons are sufficient to secure the endorsement of the alfalfa as the feed supply for the hog pasture.—Twentieth Century Farmer.

◈

THE COST OF PRODUCING CORN

We estimate the cost of producing an acre of corn as follows:

Plowing	$ 2.00
Harrowing	1.00
Planting	.50
Cultivating	2.50
Harvesting	1.80
Husking and cribbing	4.00
Fertilizer	5.00
Rent of land	6.00
Total cost of one acre	$22.80
Value of stover (deduct)	3.00
Total cost of grain corn per acre	$19.80

TABLE 1

To find the cost of a bushel of corn we will estimate the yield at thirty bushels, the average yield an acre for the United States. The value of corn will be put at fifty cents a bushel.

Value per acre of the grain	$15.00
Cost of production per bushel	.66
Cost of growing above market value	.16
Cost of growing one acre	19.80
Cost of growing above market value of crop	4.80

TABLE 2

We will estimate the yield at fifty bushels an acre, and find the following results:

Value of one acre (grain)	$25.00
Cost per bushel to produce	.39½
Market value above cost of production	.10½
Profit per acre	5.20

TABLE 3

Estimated at eighty bushels an acre:

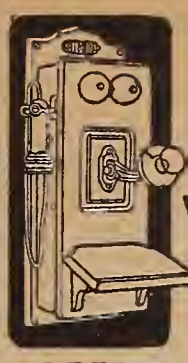
Value	$40.00
Cost per bushel to produce	.24¾
Profits per bushel	.25¼
Profits per acre	$20.20

—J. F. Keller in the Inland Farmer.

◈

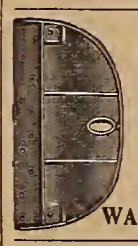
BEANS FOR GREEN MANURE

We know of one farmer who planted beans too early, and the late frost caught them, killing the whole crop. He planted again, but this time so thick that the pods did not form until an early fall frost caught them, and so the whole crop was lost. But the growth of the beans had been a very rank one, and the weeds had been kept from growing. The mass of rank herbage was plowed under and the land left to be planted the next year. The plowed-under beans proved to be great enrichers of the soil, for they added to it a very large quantity of nitrogen, in addition to the humus. This in its decay created acids, which set loose more plant food in the soil. So the bean crop was not a total loss, after all.—The Farmers' Review.

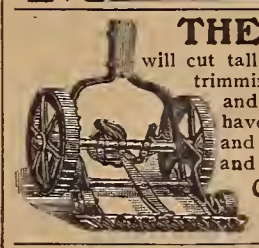

Let us tell you How to Increase Your Farm Profits
HERE'S the answer: Build a telephone line—you and nine or ten of your neighbors—so that you can keep in daily touch with your markets.
The telephone is more of a necessity on the farm than it is in the city. You can buy a
Stromberg-Carlson Telephone
equipment at reasonable costs and by following our easy and simple directions can build the line yourselves.
A telephone on the farm keeps you in touch with the markets and enables you to get medical or other assistance quickly when needed, to say nothing of its social features.
Let us send you our book, "How the Telephone Helps the Farmer," 7th edition and other booklets. They are free.
Stromberg-Carlson Telephone Mfg. Co.
Rochester, N. Y. Chicago, Ill.


30.95 3 YEARS GUARANTEE ON HIGH GRADE VEHICLES
SEND TODAY for our FREE VEHICLE CATALOGUE, a handsome book printed in colors and explaining our low prices, three-year guarantee and free trial offers on road wagons, runabouts, top buggies, surreys, spring wagons, road carts, pony rigs and harness; also our wonderful arrangements for QUICK DELIVERY, SMALL FREIGHT CHARGES and a buggy built special for your roads and climate.
SHIPPED DIRECT FROM OUR WAREHOUSE IN YOUR STATE.
IF YOU WANT A FARM WAGON, delivery or business wagon, farm truck or log truck, send for our free Wagon Catalogue which explains our long time guarantee, our low prices and free trial offer.
FARM WAGONS $31.15 and up

Address, SEARS, ROEBUCK & CO., Chicago

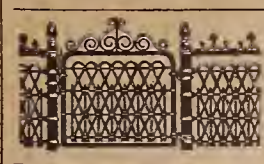

STONE BOAT HEAD
With one of our heavy cast iron boat heads (see illustration) and a few planks, one of the best and most endurable stone boats can be easily constructed. Every farmer should have one. Price only $3. If your hardware dealer cannot supply you, send your order direct to us.
WAGNER MFG. CO., Box 201, Sidney, Ohio

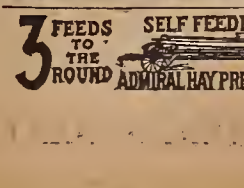
NORTH
TELEPHONES specially adapted to farm lines. Sold direct from factory.
FOR FARM LINES
Book of instructions how to organize farmers and build line free. Write for Bulletin No. 304. The North Electric Co., Cleveland, O. Kansas City, Mo. Dallas, Tex.



THE CLIPPER
will cut tall and short grass, do all trimming along walks, drives and fences. If your dealers haven't them, drop us a line and we will send circulars and prices.
Clipper Lawn Mower Co., 5th St., Dixon, Ill.


FARM TELEPHONES
Direct from Factory to You.
Over 12 years successful use everywhere and an Iron Clad guarantee protect buyers of "Central" phones. Not in the Trust. Makers of reliable goods at correct prices. Write for FREE 60 Page Instruction Book.
CENTRAL TELEPHONE & ELECTRIC CO.
Rural Desk 42 St. Louis, Mo. or Dallas, Tex.

THE LARGEST AND BEST LINE OF
WELL DRILLING MACHINERY
In America. We have been making it for over 20 years. Do not buy until you see our new Illustrated Catalogue No. 15. Send for it now. It is FREE.
Austin Manufacturing Co., Chicago


LAWN FENCE
Many designs. Cheap as wood. 32 page Catalogue free. Special Prices to Churches and Cemeteries.
Coiled Spring Fence Co. Box 403 Winchester Ind.

3 FEEDS TO THE ROUND
SELF FEEDER

ADMIRAL HAY PRESS CO. KANSAS CITY, MO.
2 PROFITS IN HAY BALING



ALFALFA

makes a tremendous growth if fertilized with

POTASH

When properly fed—with a fertilizer rich in Potash—twice or three times the average yield of succulent, nutritious hay is obtained.

Let us send you our **free book**, which tells you exactly what increase the farmers have gotten with it. From cover to cover, the book is filled with money-making facts. Write to-day and learn all about it. Address

GERMAN KALI WORKS
New York—93 Nassau Street
Chicago—Monadnock Building
Atlanta—1224 Candler Building

$10 GREAT AMERICA

WHILE WE SELL a thoroughly reliable, high grade, single tube pneumatic bicycle tire as low as $2.85 per pair, the great improved America, pictured above, made according to our specifications, is undoubtedly the highest grade single tube tire made, and our new 1908 Peerless Bicycles are equipped with these practically non-destructible great America tires.

LOOK IN OUR LATEST BIG CATALOGUE for our wonderful offerings on bicycles, tires and equipment. If you haven't the Big Book, borrow your neighbor's, or on a postal card addressed to us simply say, "Mail me your great free Bicycle Offers," and get everything by return mail, free, postpaid.



Address **SEARS, ROEBUCK & CO., Chicago.**

Nitrate of Soda

NITRATE SOLD IN ORIGINAL BAGS

The Nitrate Agencies Company

64 Stone Street, New York

Orders for All Quantities Promptly Filled—Write for Quotations

Ten Days' Free Trial



allowed on every bicycle we sell. We ***Ship on Approval*** and trial to anyone in U. S. and *prepay the freight*. If you are not satisfied with bicycle after using it ten days *don't pay a cent*.

Factory Prices *Do not buy a* bicycle or a pair of tires from *anyone* at *any price* until you receive our latest **Art Catalogs** of high grade bicycles and sundries and learn our *unheard of prices* and *marvelous new offers*.

It Only Costs a cent to write a postal and everything will be sent you **FREE** by return mail. You will get much valuable information. **Do Not Wait; write it Now! Tires, Coaster Brakes,** single wheels, parts, repairs and sundries at *half usual prices*.

MEAD CYCLE CO., Dept. S83 Chicago



MAKE YOUR BICYCLE INTO A MOTORCYCLE

at small cost by attaching the successful Erie outfit. This includes all parts to make a powerful up-to-date machine that climbs steep hills. Sample sold at cost to introduce it. Send 4 cents in stamps for new catalog No. 3.

Motorcycle Equipment Co., Hammondsport, N. Y.

$60,000 Value Given Away



THE RACYCLE has 27% less pressure on its crank hanger, ¼ less strain on chain, it runs and climbs hills easier than other bicycles. Is the largest selling high-grade wheel in the world. Will last a lifetime. We make no cheap RACYCLES but you can get yours **AT FACTORY PRICES** by securing us an agent. Catalog and pamphlet sent FREE. It tells about the RACYCLE and how to get the $60,000.

THE RACYCLE MANUFACTORY, MIDDLETOWN, O.

MORE GOOD CIDER CAN BE MADE from a given amount of apples with one of our presses than with any other, and the juice will be purer, better-keeping, and bring higher prices.



HYDRAULIC POWER PRESSES are money makers. Various sizes. 25 to 400 barrels per day. Also Steam Evaporators, Gasoline Engines, etc. Catalog FREE

THE HYDRAULIC PRESS MFG. CO.
Dept. 6 Mt. Gilead, Ohio

850,000 GRAPEVINES

69 Varieties. Also Small Fruits, Trees, &c. Best Rooted Stock. Genuine, cheap. 2 sample vines mailed for 10c. Descriptive price-list free. Lewis Roesch, Box F, Fredonia, N.Y.

DAHLIAS FREE Choice Bulbs, assorted, postage 10c., while they last. ECONOMY CO., Delavan, Wis.

When writing to advertisers, tell them you saw it in "Farm & Fireside"

Gardening

BY T. GREINER

VARIOUS ENEMIES

TOMATO BLIGHT

A "SUBSCRIBER for twenty-five years" in West Virginia is anxious to prevent the tomato blight, "which causes the branches and the foliage of the main stalk to die and dry up, beginning at the lower branches and then creeping up, and the fruit to rot later on."

This is probably the true tomato blight, a fungous disease, and as such, amenable to treatment with Bordeaux mixture. It resembles somewhat the early blight of the potato, and like this, requires very thorough and peristent spraying in order to keep it in check. Injury to the foliage may be increased by the attacks of flea beetles, or these may help the disease to find entrance.

For spraying the plants in the earlier stages, or before the fruit begins to develop, therefore, it is advisable to use the Bordeaux mixture in fairly good strength, say four pounds of copper sulphate to forty gallons of water, and to add a pound of arsenate of lead to this quantity.

CORN-SILK WORM

The same reader also asks what remedy, if any, there is for the worm that eats its way into the ears of sweet corn through the silk. This "corn," or "boll," worm is an enemy which we hardly ever see in the Northern states. It does much damage farther south, even in New Jersey, as I had occasion to learn by personal experience.

The parent of the worm is a moth which is double brooded. The first brood usually attacks the very earliest varieties of corn, and the second brood the late ones. The intermediate sorts often escape the ravages of this troublesome pest. If we plant some of the earliest sorts, watch the patch closely and pick off the infested ears, feeding them to stock, we may head off the second brood to some extent, and have late sweet corn reasonably free from worms. But we should watch that, also, and promptly destroy the infested ears. In badly infested districts the intermediate sorts, however, may be made the main dependence for the sweet-corn crop.

CABBAGE WORMS

The third question from the same party is in relation to the worms that infest cabbages. By hand picking he can manage the plain green worm which works near the surface of the head, but he finds the other fellow, the striped one, which goes deeper into the head, more difficult to subdue.

A study of the life history of this pest, the Zebra caterpillar, will soon reveal its weak points and suggest the best methods of treating it. The Zebra moth deposits its eggs in clusters on cabbage, cauliflower and other plants early in summer.

The young caterpillars first appear blackish, changing afterward to a light green. While young they are feeding in flocks or clusters. Then is your chance. Don't wait. Pick off the infested leaves and destroy them. This is not so very much trouble, and if even reasonable pains are taken to do the job well, you will have but little trouble from these worms later on.

If they are once given a chance to scatter all over the head and into the folds of the leaves of the cabbages, you will have to fight them by the same means recommended for the green cabbage worm—namely, applying strong tobacco tea, kerosene emulsion, or a mechanical mixture of kerosene and water, or hot soapsuds, or insect powder in water, etc., all applied in a forcible spray, say with a knapsack or similar sprayer. But whatever you use, use it promptly on first discovery of the enemy.

IS FIVE ACRES ENOUGH?

Miss J. P. T., Winona, Indiana—The book entitled "Three Acres and Liberty," about which you inquire, is certainly written in a very interesting style, and there are many things about it that make it worth while for any one to go over it carefully. However, it deals rather more with possibilities than with probabilities, and it should not be taken without a few grains of salt. For instance, on page 255, carnations are quoted at one dollar a dozen. Good carnations were sold in our local market recently for fifty cents a dozen, which undoubtedly allowed a fair profit to the seller.

There is a possibility of getting upward of six hundred bushels of potatoes an acre, but I know from long experience, with the best of cultivation, that when we get two hundred bushels an acre we are getting more than the average, and we seldom realize as much as this.

In this market I have sold onions as high as one dollar and twenty cents a bushel in the spring, and there have been years when good stock wintered over was worth only six cents a bushel, and yet in a series of years onions are a paying crop. A neighbor of mine this year raised nearly one thousand bushels of onions on one acre, and yet in occasional years he may get considerably less than four hundred bushels, although we generally expect to get as much as five hundred bushels an acre from any area put into this crop if well cared for.

Success in any business is largely a personal matter, and what is quite easy for one person is difficult for another. I have a neighbor who has, during the past year, cleared considerably over two thousand dollars, in addition to his house rent and vegetables, and that from only eight acres of land in vegetables. But he is a very careful, hard-working manager and has a small greenhouse and hotbeds.

As to the possibilities of making a living from five acres of land, I think it quite possible to do so, if well managed, and should have no doubt about it in my own case. I think the most successful way, however, of doing it would be to purchase land in some good fruit-growing section and plan to have work the year round by keeping some live stock, which should certainly include a cow or two and some hens, and possibly, as you suggest, some bees and pigeons.

In such case a portion of the land must be used each year for growing forage crops, as land cannot be continuously used for small fruit successfully, and it is a good plan to rotate it with some grass or clover crop. The keeping of live stock furnishes manure, which is necessary for the land.

Whoever undertakes to get a living from five acres of land, however, should understand that there are lots of little economies that must be practised, and that there will be much to learn and much hard work.

S. B. GREEN.

CELERY BLIGHT

Attacks of blight on celery plants are of very common occurrence. In some seasons, usually dry and hot ones, celery plants suffer greatly from this disease. In other seasons, the cool and wet ones, we hardly see a sign of it.

A California reader complains of the great losses he had last year, for the first time in fifteen years, from the attacks of celery blight. Possibly another year his plants may remain perfectly healthy during the entire season. But it would not do to depend too much on this. It is just as likely that the blight will strike them worse than last year.

In copper sulphate we have a fairly effective remedy, or rather preventive. In the earlier stages of the plants' growth I would use it in the form of Bordeaux mixture, and if that is applied thoroughly and persistently enough, I believe the blight will have little chance to harm them.

A great howl went up last fall, however, when some one discovered traces of a greenish or bluish substance on celery exposed for sale in some city market. An examination made on behalf of the board of health of said city revealed the presence of minute quantities of that allegedly "virulent poison," copper sulphate. This, as Bordeaux mixture, applied with lime rather late in the season, and being somewhat adhesive on account of the lime, had not been entirely washed off by rains or by the rinsing given it previous to marketing.

I have found spraying with very weak simple solutions of the copper sulphate in any stage of growth quite effective in warding off the blight or killing the blight spores. For the later sprayings I would therefore prefer to use such simple solutions. They require smaller quantities of copper, and are more easily washed off. As to the danger from poisoning, there is absolutely no cause for apprehension, and the simple solution leaves no stains. I am sure the blight can be conquered, and this without endangering anybody's health.

ASPARAGUS IN SOD

What to do with a half acre of asparagus in sod that cannot be cultivated is the question asked by an Ohio reader.

Asparagus must be cultivated. If the sod is so tough and thick that it cannot be broken above the crowns of the plants without damage to them, the only thing that can be done, in my estimation, is to make a new plantation and plow up the old. If the plants are old, it would not pay to use them again, and it would be necessary to procure young plants. I prefer strong, one-year-old roots.



Quality Apparatus and Equipment means efficient service, reliability, durability, low maintenance charges and insurance against the various sorts of annoyances and troubles experienced with poor lines.

Western Electric Co.

Apparatus and Equipment is the standard of quality.

¶ At this season of the year when storms become frequent, it is especially necessary to see that your instruments have adequate protection against lightning. Make sure of quality in every part of your equipment.

Booklet, "Rural Telephone Equipments," Sent Free.

WESTERN ELECTRIC COMPANY

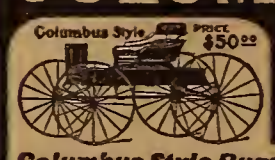
Standard "Bell" Apparatus

New York	Chicago	Dallas
Philadelphia	St. Paul	Denver
Atlanta	Des Moines	Salt Lake City
Pittsburg	St. Louis	Seattle
Cincinnati	Kansas City	San Francisco
Indianapolis	Omaha	Los Angeles

Use Address Nearest You

COLUMBUS

THE BUGGY OF QUALITY



Columbus Style Buggy Book FREE

We manufacture Buggies, Runabouts, Driving Wagons, Surreys, Carriages, Phaetons, Stanhopes, and a large variety of light Pleasure Vehicles, and sell them

DIRECT TO THE CONSUMER

It costs no more to get the latest style and "Columbus" has always led in style. We will furnish you your vehicle, painted and trimmed just the way you want it; properly proportioned and mechanically correct. *Write for our* ***FREE CATALOGUE*** *at once.* Our low prices for *Columbus Quality, Style and Workmanship* will surprise you and will save you 40 to 60%. The Catalog will cost you nothing.



Look our styles over and compare our prices before you purchase. Write today for the FREE CATALOG. 19 years' experience making high-grade Vehicles and Harness.

THE COLUMBUS CARRIAGE & HARNESS CO.
2031 So. High Street, Columbus, Ohio

FRUIT FARM SUPPLIES

BURBANK PLUM TREES

Largest size, 50 trees for $5, 100 trees for $9 boxed and on cars here.

Everything for the orchard and garden.



Spray pumps, spray mixtures, berry crates and baskets.

Green's nurseries are 12 miles out of Rochester, N. Y., far from other nurseries. No scale.

GREEN'S TREES GROW AND GO TO YOU

SAFELY BY MAIL, EXPRESS, OR BY FREIGHT
GREEN'S NURSERY CO., Rochester, N. Y.

Send for free Implement Catalog, also for free Fruit Catalog, and a copy of Green's Fruit Magazine. Established 30 years. Five Nursery Farms. (Capital $100,000.00.)

GREEN'S NURSERY CO.
Rochester, N. Y.

When writing to advertisers, tell them you saw it in "Farm & Fireside"

Fruit Growing

BY SAMUEL B. GREEN

SCUPPERNONG GRAPES

A. C. H., Washington, D. C.—The scuppernong grape is native to our Southern states. It is of strong growth and generally gets along without pruning, although the berries are much increased in size by judicious pruning.

It is generally grown over a flat trellis six or seven feet high. The leaves are small and the wood short jointed. The fruit grows in clusters of a few berries each and are large in size. It is of good quality when well ripened, but cannot be shipped, as it is very perishable.

It produces long roots from the branches, which form new stems when they reach the ground, something like the banian tree, though not to so great a degree. The fruit is highly esteemed for making into wine.

PINEAPPLES IN FLORIDA

C. A. B., Des Moines, Iowa—The pineapple industry has grown to large commercial proportions in southern Florida. The largest plantations are much south of Titusville on the east coast and further south on the west coast. At least several hundred carloads are shipped each year over the Florida East Coast Railroad. They are grown on a large scale as far south as Miami.

The crop ripens mostly in May and June, but the beds continue to produce more or less throughout the year. Some growers cover their plants with a high lattice screen, but most of them are grown without cover. The most common variety grown is the Red Spanish. It generally requires nineteen months from the time the plants are set out until the first crop ripens.

STRAWBERRY PLANTS — EUROPEAN CHESTNUT—PROTECTING ROSES AND PEACH TREES

N. B., Caledonia, Pennsylvania—The little new strawberry plants of which you found about two thousand around your old plants in the autumn are the same as the sets that you bought in the spring from which your beds were started. To start a new bed it is not necessary for you to buy new sets, provided you have enough of these. You should plan to leave perhaps four to six new plants about the old plants with which you started last spring, and the rest of them can be taken up and used for starting a new bed. They should be treated just the same as those you bought in the spring.

The European chestnut does fairly well in your section, but I think you will get the best results from the Paragon or some of the other Japanese kinds.

I do not think it necessary to wrap up three-year-old hardy perpetual roses in your section, but it is a good thing to do, and the chances are that your roses will come through in better condition when protected than if not attended to in this way. I think it is not necessary to wrap the bushes in a standing position. A better way is to lay down first a few inches of straw, on which the bushes should be laid, and then put on more straw, then a few boards to hold them in place and to keep off the rain. This is probably the best protection and far better than covering with earth or bags. It is important to keep standing moisture away from rose plants in winter. Of course, protection of this kind should be applied in autumn just before the ground freezes up.

I think the chances are that your peaches kill in winter from the fact that the trees are growing in soil that is too rich, and hence the fruit buds are not well formed when winter comes on, and so are injured. This is a difficult matter to overcome. It is quite possible to cover peach trees in a standing position by drawing the tops together and covering with straw or sacks, but it is not very satisfactory.

THE NORWAY POPLAR—GIRDLING APPLE TREES

J. G. J., Pintah, Minnesota—The Norway poplar is a rapid-growing tree, but I do not think it is sufficiently desirable to take the place of such trees as the green ash and elm. For the growing of trees to be sawed into timber I think it one of the best for farm planting. You can obtain cuttings of this from most of the Minnesota and Dakota nurseries.

It is more than likely that the variety of apples which grows so vigorously in your yard and does not flower is some of the kinds that are tardy in coming into bearing. I do not know what it is from your description.

I think that if I had trees of this kind I should girdle them. To do this, select one of the main branches of the tree, and run around it with an ordinary fine-tooth saw, just cutting through the bark into the wood. Do this in early June, and the tendency will be to throw that part of the tree into bearing.

I do not care to recommend girdling of trees in this or any other way as a general practise, but where trees are persistent in not flowering I think it a desirable thing to do.

HALE PLUM NOT FRUITING

C. C. H., Harmersville, New Jersey—It seems to me that your Hale plum trees would probably bear if some other Japanese variety flowering at the same time were planted in their near vicinity. I am not familiar with this variety. I think, however, that were I in your place, and had one hundred trees of this plum which flowered each year and failed to set fruit, I should take out a few of the trees and plant in perhaps a dozen other Japanese plums, including such varieties as Abundance and Burbank, and would wait until they came into flower.

I would also go to the trouble of visiting orchards near by this coming spring, when my trees were in flower, and select several flowering branches of other plums, and put them in the near vicinity of this Hale plum. Put them in water, so they will not wilt. It is possible that in this way some of the flowers of the Hale plum will be properly crossed.

I think, too, that I should try crossing the flowers of the Hale plum by hand. To do this, take the flowers of some other plum flowering at the same time, pull out the anthers, keeping them in a watch glass or other very shallow small dish for a few hours in a dry room after they have been picked, then use a camel's-hair brush and fill it full of the dust that came from the anthers in the watch glass, and go over some of the flowers on a few branches of the Hale plum, just touching the central part of the flower, which is known as the pistil.

This is such a simple operation when you have once understood it, that you will be surprised that you ever had any doubt as to your ability to do it correctly. In this way you would determine at once as to the possibility of securing good results by the admixture of other varieties among your Hale plum trees.

RAISING PINE SEEDLINGS

E. J., Jones, Wisconsin—Unless you have had experience in the raising of pine seedlings, I am afraid that you would be much disappointed in attempting to raise them from seed, as frequently there is a serious loss from damping off, and even in the hands of experienced growers success with coniferous seedlings is largely a question of favorable climatic conditions.

It is almost impossible to tell you how many plants you can expect from one ounce of seed from any of the pines which you mention. If you were to get three hundred seedlings from an ounce of pine seed, I should say that you would do well, and yet we will sometimes get as high as one thousand to fifteen hundred.

I would suggest that you get a copy of "Forestry in Minnesota," which is a state publication of four hundred pages, nicely bound, sent out from the University of Minnesota at a charge of thirty-seven cents postpaid, or twenty-five cents a copy without postage. In it the matter of raising evergreen seedlings is explained at considerable length, as well as the general subject of forestry as applied to your section.

WILLOWS FROM CUTTINGS

C. P. J., Chicago, Illinois—I see no reason why you could not grow the native long-leaved willow, to which you refer, from cuttings to advantage. I believe these willows are the S. longifolia type, which is very pretty, and common through Minnesota and Wisconsin.

To grow them to best advantage the cuttings should be made of wood from one fourth to one half inch in diameter, and these cuttings should be about fourteen inches long. The grass should be somewhat cleaned off with a sharp spade, and the cuttings stuck in rows or clumps in the moist soil to the depth of about twelve inches.

Treated in this way I think there will be no trouble about your securing a good stand on the higher portion of your swamp land. They should be planted as early in the spring as the ground can be worked to advantage.

VINEGAR FAILS TO FERMENT

C. H., Blueash, Ohio—As a rule vinegar stock that fails to ferment well is lacking in sugar. This is most likely to be the case with vinegar made from cider that is pressed out early in autumn. I think there need be no trouble in making vinegar either from cider or wine, provided the stock is sufficiently rich in sugar and when the fermentation is started by pouring in a little old vinegar. I do not think there is much use in trying to reclaim vinegar after it gets into this tasteless condition, for it will cost more than it will come to; however, it may be a good plan to add a litle glucose and some good new vinegar.

ORCHARD ON STEEP HILLSIDE

M. O. F., New London, Connecticut—If the steep hillside which you desire to use for an orchard is too steep to be cultivated, and still is well adapted for tree growing, I think it quite practicable to grow an orchard on it.

Dig up the soil for a space of five feet in diameter where the trees are to be planted, and set the trees deep, at least twelve to sixteen inches deeper than they grew in the nursery. I think you had better plant them about twenty feet apart each way.

I think your plan of putting butcher offal under the trees is a very good one, and that a head could be buried to advantage under each of them, but it should be placed at least six to twelve inches away from the roots. This material is a very slow-acting fertilizer, and under your conditions I think would have a tendency to encourage too much growth. However, I should not care to pay much for such material to use in this way.

I fear you will make a mistake if you plant many of the Yahnke apples, as they have not as yet proven profitable.

RED CEDAR AND GRAIN RUST

J. E. S., Stanley, Wisconsin—It is quite an exaggeration of the injurious effects of having red cedar in one's vicinity to say that all grain and vegetables near it will become rusty. The red cedar is the host plant for what is known as the apple rust, and when growing near to an apple orchard is frequently the source of this trouble. The disease lives one generation on the apple and the next on the red cedar.

I met a case last summer near Lake Minnewaska, where the apple trees growing near to a red-cedar hedge were so badly affected by rust that they lost all their foliage, but trees of the same kind one hundred and fifty feet away were scarcely injured.

This rust is very different from the diseases that attack grains and vegetables. The common rust of wheat lives on the barberry, and probably some other plants, for one generation, and in some parts of Europe planting the barberry is prohibited by law on account of its effect on wheat rust.

I think your uneasiness as to planting this tree is entirely groundless, except as it may apply to certain varieties of apples growing near it.

THE IMPROVED RANEY CANNING OUTFITS

Made in all sizes and prices from $5.00 up, and suited to both

HOME AND MARKET CANNING

We have made many special improvements for the coming season, and are determined that no one living shall give better value for the same money. Our catalog gives full particulars, and much valuable information. Every farmer and housekeeper in the land should have it and learn of the great improvements that have been made in putting up fruits and vegetables. We are glad to mail it to anyone interested.

The Raney Canner Company, Chapel Hill, N. C., Box 4

GET A "GRAIN SAVING" AND "PERFECT CLEANING" AVERY to thresh with, or to thresh for you.



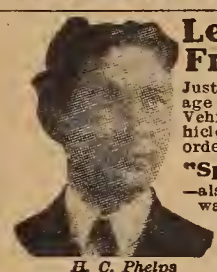
AVERY CO. 532 IOWA STREET PEORIA, ILL. Makers of Threshing, Steam Plowing and Corn Growing Machinery

COMING WEST?

☐ SOIL ☐ GOVERNM'T LANDS
☐ CLIMATE ☐ MANUFACTURES
☐ FARMING ☐ TIMBER LANDS
☐ DAIRYING ☐ IRRIGATION
☐ FRUIT GROWING ☐ LUMBER
☐ COST OF LIVING ☐ MINING
☐ BUSINESS OPPORTUNITIES
OR ANY OTHER INDUSTRY?

Do you want reliable information about →→→

We answer all questions impartially and in a painstaking and complete manner. "No ax to grind"—nothing to sell. We are the publishers of The Pacific Monthly, the big Western National magazine. Offices in all important Western cities. We pave the way for you and guide you clear of pitfalls. If you are interested in the West, write us today, enclosing 15c for copy of 200-page beautifully illustrated magazine, and our proposition to Western travelers and homeseekers. References: Any bank or business house on the Coast. Address THE PACIFIC MONTHLY WESTERN INFORMATION CLUB, 601 PACIFIC MONTHLY BUILDING, PORTLAND, OREGON



H. C. Phelps

Let Me Pay the Postage on My Big Free Buggy Book to You

Just write me a postal. Let me pay the postage to you on my Big 1908 "Split Hickory" Vehicle Book. Shows over 125 styles of Vehicles and how you can save $25 to $40 by ordering direct from my factories. My

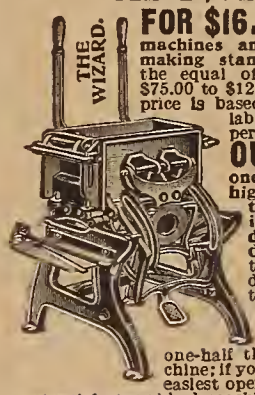
"Split Hickory" Book Free

—also shows how I make any Vehicle you want to-your-order.—Also full line of High-Grade Harness all at great saving prices. Address me personally—H. C. PHELPS, President, The Ohio Carriage Mfg. Co., Station 23 Columbus, O.



$16.95 CONCRETE BLOCK MACHINE

WITH COMPLETE OUTFIT OF FACE PLATES, PALLETS, ETC.



FOR $16.95 we furnish one of the best concrete block machines and outfits ever made for making standard 8x8x16-inch blocks, the equal of machines others sell at $75.00 to $125.00. Our marvelously low price is based on cost of material and labor, with just our one small percentage of profit added.

OUR OFFER: We will ship you one of our Wizard Machines, higher in price yet only one-third what others ask for inferior machines, on thirty days' free trial, with the understanding and agreement that you can use it for thirty days, and if you don't find that our Wizard turns out the highest grade, most perfect blocks with one-half the cost, one-half the labor, one-half the trouble of any other machine; if you don't find it the simplest, easiest operated, by far the fastest and most satisfactory block machine ever produced, then you can return the machine to us and we will immediately return all you have paid for freight charges or otherwise, and the trial will NOT COST YOU ONE CENT.

Write for our new Concrete Block Machine Catalogue with the machine explained in detail, copy of our binding guarantee, our free trial offer, letters from users everywhere, about the wonderful Wizard money maker; it's a great opportunity for profits, all explained in our free Concrete Block Machine Book. Cut this ad out and send to us and you will get the book and all our latest offers free by return mail, postpaid. Address

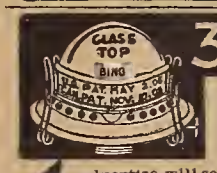
SEARS, ROEBUCK & CO., CHICAGO

GATES FOR THE FARM



Made of cold rolled steel, any length, barbed or mesh wire, no casting to break, no wearing parts, never blow down, burn or rot. Hog tight, bull proof. The Iowa Gate can be raised in winter or to let hogs under. Cheaper than wood. Free catalogue.

IOWA GATE CO., 22d St., Cedar Falls, Ia.



33⅓% MORE LIGHT

Without extra cost. Equal to gas or electricity with a "BING" GLASS TOP LAMP BURNER. It fits common lamps. To advertise will send postpaid, one to a family for dealer's name and 25c to pay for packing and postage. Either No. 1 or No. 2 size.

Dept. 5 Bing Burner Co., Minneapolis, Minn.

FIX YOUR ROOF

5c Per Square.—We will guarantee to put any old leaky, worn-out, rusty, tin, iron, steel, paper, felt or shingle roof in perfect condition, and keep it in perfect condition for 5c per square per year.

Roof-Fix The Perfect Roof Preserver, makes old, worn-out roofs new. Satisfaction guaranteed or money refunded. Our free roofing book tells all about it. Write for it today.

The Anderson Manufacturing Co., Dept. 19, Elyria, Ohio.



PATENT YOUR IDEAS

$100,000 for one invention; another $8,500. Book "How to Obtain a Patent" and "What to Invent" sent free. Send rough sketch for free report as to patentability. We advertise your patent for sale at our expense.

Patent Obtained or Fee Returned.

CHANDLEE & CHANDLEE, Patent Att'ys, (Established 15 years)

987 F. Street, Washington, D. C.

CANADA LANDS

We have for sale 300,000 acres of choice prairie lands, located in well settled districts in Saskatchewan and Alberta, near to railways and towns. Have fine colonizing propositions. Low prices, easy payments, Government title. Write for map and pamphlet. Active Agents Wanted.

STEWART & MATHEWS COMPANY, Ltd.,
305 Jackson Street, ST. PAUL, MINN.



A Suffering Hen

Lice attack the vitality of an infested hen so persistently that there is no "let up," in her misery. There will be a "let up," however, in your profits, for no hen is sufficiently vigorous to support voracious myriads of hungry lice and also lay eggs. Whether you suspect the presence of lice or not, *now* is the time to begin to use

Instant Louse Killer

It will kill them if present and prevent their coming if you don't have them. Sprinkle it freely about nests and roosts, dust the hens with it and apply wherever there is the possibility of lice harboring. Instant Louse Killer is the prescription of Dr. Hess (M.D., D.V.S.) and destroys lice on cattle, horses, ticks on sheep, rose slugs, cabbage worms and bugs on cucumber, squash and melon vines. Comes in shaker-top cans and may be used winter and summer alike. Good also as a disinfectant.

SOLD ON A WRITTEN GUARANTEE

See that the word "Instant" is on the can.

1 lb., 25 cents / 3 lbs., 60 cents } Except in Canada and extreme West and South.

If your dealer cannot supply you, we will send one pound by mail or express, prepaid, for 35 cents.

Manufactured by

DR. HESS & CLARK, Ashland, Ohio.

FOR THIS



—NEW LOW DOWN— AMERICAN CREAM SEPARATOR

WAIST HIGH

Guaranteed to skim closer than any separator in the world. Sold direct from the factory. We are the oldest exclusive manufacturers of hand separators in America. You save all agents', dealers' and even mail order house profits. We have the most liberal 30 DAYS' TRIAL, freight prepaid offer. Write for it today. Our new low down, waist high separator is the finest, highest quality machine on the market; no other separator compares with it in close skimming, ease of cleaning, easy running, simplicity, strength or quality. Our own (the manufacturer's) guarantee protects you on every AMERICAN machine. We can ship immediately. Write for our great offer and handsome free catalogue on our new waist high model. Address,

AMERICAN SEPARATOR CO. Box 1058, BAINBRIDGE, N. Y.

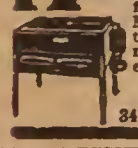


$26.30 SEPARATOR

HAVE YOU SEEN OUR LATEST IMPROVED 1908 MODEL ECONOMY CREAM SEPARATOR? Built on the low down order, easy running, simple beyond comparison. Skims to a trace. The easiest running, closest skimmers, strongest and by far the best cream separators ever made. Prices so low they scream for attention. Look in one of our latest Big Catalogues for cream separators. If you haven't a Big Book borrow your neighbor's; otherwise before buying a cream separator anywhere at any price, on a postal card addressed to us, simply say, "Mail me your latest and greatest Cream Separator Offer. ADDRESS,

SEARS, ROEBUCK & CO., CHICAGO

MODEL MONEY MAKERS



Poultry is a profitable crop on the farms where Model Incubators and Brooders are used. If you are not making big money on your chickens, write for my book. It tells how.

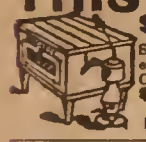
MODEL INCUBATOR CO., Chas. A. Cyphers, Pres. 341 Henry St., Buffalo, N. Y.

Sure Hatch Incubator



Shipped you on Unlimited Trial direct from our nearest warehouse. Guaranteed Five Years. Over 140,000 people are making money with this splendid sure hatcher. "Get in line." Write today for Free Book telling all about the famous Sure Hatch and How to Make Poultry Pay. Send no money—just a postal. Address SURE HATCH INCUBATOR CO. Box 66, Fremont, Neb., or Dept. 66, Indianapolis, Ind.

THIS IS THE LIMIT



$5.00 For a 50-Egg Hot Water BUCKEYE

Self-regulating Incubator. Guaranteed to hatch every hatchable egg. Both the Incubator and 50-Chick Brooder, freight prepaid east of Rockies, $9. 40 days trial. Send for FREE catalogue.

Buckeye Incubator Co. Box B 26, Springfield, Ohio



Greider's Fine Poultry Catalogue.

Tells all about pure-bred poultry and illustrates 60 varieties. Contains 10 beautiful chromos. Gives reasonable prices of stock and eggs. Tells how to cure diseases, kill lice, make money. Only 10 cts. postpaid. E. H. GREIDER, RHEEMS, PA.

Poultry Raising

FROM MY EXPERIENCE IN POULTRY RAISING

A woman in Kentucky asks me quite a number of questions about raising chickens. Her first question is, Which is the best incubator on the market? This is a matter each person who wants an incubator must settle for himself. There are many makes on the market, and the catalogues of the manufacturers are well filled with flattering testimonials, but I have had such a woful experience with these machines, or with the chicks hatched by them, that I prefer to let each would-be buyer work out the question for himself. I might say that I do not like the method of incubator sellers, but that is a matter of business. Some people do business one way, and some another.

In the matter of raising well-hatched chicks I have had the best success starting them with dry feed. I do not feed for forty-eight hours after hatching, and lose very few. I might say I have made a good deal of money raising market poultry, and producing eggs for market, and I long ago learned that both fowls and chickens must be properly cared for if one wants to make any profit from them. Proper care does not mean that one must be everlastingly pottering about among them, but that they must be protected from animals, vermin and disease and given a fair chance.

For some years I have fed my chicks the first three weeks on a mixed feed that I buy from the mixer. It costs me a fraction over one third more than the same materials mixed by myself, but I save the time of mixing, which is quite an item. In fact, I have found that in raising and managing poultry on a fairly large scale one must economize in both time and labor as much as possible.

In buying these mixed feeds one should exercise a good deal of care. One season I bought from a firm that advertises poultry supplies and incubators extensively, and I received a mixture that, besides the broken grains in it, contained the seeds of twenty-three of the meanest weeds that grow on the farm, and I thoroughly seeded one yard to these miserable pests. After three years of constant war there are still some of them left.

When I was raising a hundred chickens where I now raise one, I had them in yards, not pens, that they could not get out of until I let them out. They were kept there until they knew enough to come in when it rained, and very rarely did a prowling cat or "bird dog" get one. I hatched them with hens, and hens took care of them until they were able to take care of themselves.

I found it possible to so systematize the work of hatching, feeding, watering and caring for the chicks that one person can do as much as five or six ordinarily do, and do it ten per cent better. One can fritter away time and worry himself half crazy hatching and caring for chickens, and then make a mess of it. And he can, if he goes about it right, so systematize his work that it is both easy and profitable. Active brains are required in poultry raising, as in successful farming. Fred Grundy.

BEGIN WITH WHAT YOU HAVE

A good many times we are kept from making as much as we might from our poultry by the fact that we have no appliances such as we hear specialists tell or write about, and so we think that we could not make it pay. This is a mistake. The right thing to do is to begin right where we are and use the best things we have, and so little by little work into the business.

I visited a man a short time ago who was doing this successfully. He was a carpenter, but had a small place of his own where he could keep a cow and some hens. Most men would have been discouraged because they had not better facilities for poultry keeping. Not so this friend. He used the ingenuity with which he had been blessed to such good advantage that his little flock was one of the most productive I know of. He had rigged up a comfortable house for his chicks. He studied feeding, and he enjoyed this part of his business. That goes a long way.

This man had just an old hatchet for a bone mill. He ground that up, and standing his bones up on end on a block of wood, he chopped away until he had enough for a meal. He took the wheat he fed in the morning into the house and warmed it up good on the kitchen stove. That, by the way, gave me a pointer. He told me that he always did this in cold weather. He thought that after a cold night, it warmed the hens and made them ready for work through the day. At night he fed a nice warm mash, and this sent the chicks to bed happy and comfortable. And that man will come out all right, mark my word. V.

HOW TO TELL THE LAYERS

An Oregon reader asks about the Hogan or other systems of ascertaining what hens are layers and what are not. The "discoverer" of the one system asks only ten dollars for his secret. Another one sells a little pamphlet which tells this same secret for one dollar. I did purchase this at its regular price under a promise to keep the secret for myself.

It has gone into public print ("Gleanings in Bee Culture" and various station publications), however, that all these systems are based on an examination of the pelvic bones of the hens. If they are close together, the hen is not laying; if well separated, the hen is laying.

I can find no particular advantage for me in any such system. Station experts claim that the only safe way to tell a good layer from an indifferent or poor layer is by means of the trap nest. I incline to the opinion that they are right.

So far as I have investigated this matter, I feel certain that I would not pay ten dollars, or even one dollar, for any of these "secrets," in the expectation of getting my money back in practical results in the poultry yard. At least I have as yet found nothing better than the trap nest, which, however, is connected with some trouble and labor. T. G.

THE FEEDING OF YOUNG CHICKENS

Young chickens should be fed a little at a time and often. If they are given ground food alone there is great danger of overfeeding. Very good results may be obtained by feeding cracked grains alone from the time the chickens are hatched until they reach maturity. There are on the market many prepared chick feeds, consisting of different mixtures of cracked grains, which are very suitable. After the chickens are five or six weeks old the prepared chick feeds may be dropped and the chickens fed on cracked corn, cracked wheat, hulled oats, etc.

If the chickens cannot get grass, some kind of green feed should be provided. Lettuce and cabbage are very good for this purpose. Some kind of meat should be provided, such as green cut bone or meat scraps. Finely cracked grit should be kept in a box where the chickens can help themselves at all times.

Water should be provided from the start, and should be placed in such a way that the chickens cannot get into it.

R. B. Rushing.

CORN AMONG THE LITTER

Take pride in having your birds look the nicest possible.

You can save money by pushing the chicks along fast the early part of the season and getting them out of the way.

If there is any grain near the house, better shut the hens up until it is in the barn. But feed your hens a little extra during their confinement.

Hold on! Don't throw away that nice panful of sour milk! Take it out to the hens. They will use it and turn it into the nicest eggs you ever saw. Makes them happy to do it, too.

Fanciers have a way of washing their pets that are to be put on exhibition. We cannot all do that, but by keeping the floors clean and the nest boxes all supplied with fresh straw we may have good-looking fowls, after all.

An orchard is not an ideal place for the hens to run. I have seen them get in the habit of flying right up into the trees where fruit is ripening and peck the apples terribly. Better pick up the immature or worm-infested fruit and take it to the hens than to have them destroy fruit that may be sold or used at home.

Those who use the hopper system go on the plan that a hen knows when she has had enough to eat, so that she will not waste anything, but will do the better for having all she needs. Something in this, too. But after all, is it not true that even some of us so-called smart folks do need some one now and then to tell us when to stop eating? E. L. V.

Go Into Business

Experience is Not Necessary



MAKE YOUR OWN Concrete Blocks and Bricks

$18.90 For Concrete Block Machine

WHY PAY MORE

$13.90 For Concrete Brick Machine

Montgomery Ward & Co. Chicago and Kansas City

One of our machines—a little cement, gravel, sand and our book of instructions will do the work. Used for

Churches, Homes, Stores, Fences, etc.

Send for Catalogue, FREE

Full information. Thousands of houses are going up all over the country out of blocks and bricks made with our machines. Send today for our Special Catalogue. 200,000 copies ready for distribution. It is full of valuable information along this line.

Send for Scale Catalogue

$38.50 4-ton Pitless Scale

30 Days FREE Trial

10 Year Warranty Against Defects

57

ANCHOR FENCE

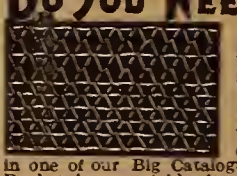


CATALOG FREE

Write at once for our new, money-saving plan, tells how to buy the best farm and ornamental fence at the lowest possible price, saving all jobber's and dealer's profits. We are saving thousands of dollars to fence buyers every year. Special agents' proposition. Write—

Anchor Fence & Mfg. Co. Sta. D, Cleveland, Ohio

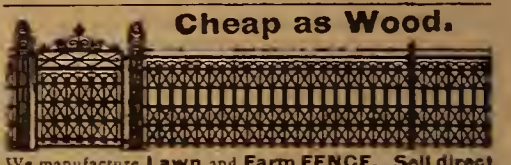
DO YOU NEED FENCING?



SAVE ONE-HALF OR MORE IN COST and get the best steel woven wire fencing made, strongest and most lasting manufactured; buy it at about the cost of a few strands of common dangerous barbed wire. We make it in our own factory. Look for it in one of our Big Catalogues. If you haven't the Big Book, get your neighbor's, or this moment in a letter to us say, "Mail me your wonderful Woven Wire Steel Fence Offer."

Address, SEARS, ROEBUCK & CO., CHICAGO.

Cheap as Wood.



We manufacture Lawn and Farm FENCE. Sell direct shipping to users only, at manufacturers' prices. No agents. Our catalog is Free. Write for it to-day. UP-TO-DATE MFG. CO., 971 10th St., Terre Haute, Ind.

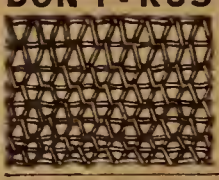
COIL SPRING FENCE



Made of high carbon Steel Wire Horse-high, Bull-strong, Chicken-tight. Sold direct to the Farmer at lowest manufacturers prices on 30 Days Free Trial, freight prepaid. 100 page Catalogue and price-list free.

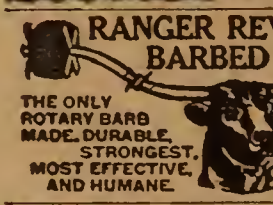
KITSELMAN BROS., Box 272 MUNCIE, IND.

DON'T RUST FARM FENCE



Closest woven farm fence made. Old-fashioned galvanized, therefore can't rust. 40-Carbon Elastic Spring Steel Wire. 30 Days' Free Trial. Send for free catalog No. 57, with prices, freight prepaid, on Farm and Poultry Fence. Address The Ward Fence Co., Box 817, Decatur, Ind., also mfrs. Ornamental Wire and Ornamental Steel Picket Fence.

RANGER REVOLVING BARBED WIRE



THE ONLY ROTARY BARB MADE. DURABLE, STRONGEST, MOST EFFECTIVE, AND HUMANE.

WRITE US RODS YOU CAN USE. WE NAME PRICE DELIVERED. KLEFS MFG. CO. Block 62 KANSAS CITY, MO.

FENCE *Strongest Made*



Made of High Carbon Double Strength Coiled Wire. Heavily Galvanized to prevent rust. Have no agents. Sell at factory prices on 30 days' free trial. We pay all freight. 37 heights of farm and poultry fence. Catalog Free.

COILED SPRING FENCE CO. Box 30 Winchester, Indiana

ORNAMENTAL FENCE



25 DESIGNS, ALL STEEL

Handsome—cheaper than wood—more durable. Special prices to churches and cemeteries. Don't buy a fence until you get our free catalogue.

Kokomo Fence Machine Co. 427 North St., Kokomo, Ind.

Indian Runners Dryland ducks. Year 'round layers. Live on little feed. Great foragers. Won't stroll away. Eggs $1.50 per 11, $3.00 per 24. H. P. HAMER, Lewistown, Ohio.

Live Stock and Dairy

Baby Beef and Its Production

The Methods Followed by Two Producers

RAISING BABY BEEF

BY J. HUGH MCKENNEY

One has only to examine the stock-market reports to learn that the large-framed, coarse-grained, long-maturing animal is rapidly giving way to the young, medium-sized animal that has been quickly matured and properly finished. Changing conditions have brought about an increased fastidiousness in reference to the things we eat, and in no line is there a closer discrimination than is to be found in the meat trade of our larger centers. Only lean, tender, juicy cuts are wanted; hence the growing demand for baby beef. At present the supply is quite inadequate, and it behooves the intelligent, up-to-date farmer to read the signs of the times aright and give this particular phase of the beef business his careful attention.

THE BEEF TYPE NECESSARY

To raise this kind of beef profitably it is absolutely necessary to have calves of the beef type. They must possess the ability to put on flesh in the right spots—that is, they should be well developed where the most expensive cuts are to be found. Considering that a first-class beef animal has about thirty-five per cent of his dressed weight in the three cuts along the back, known as ribs, porterhouse and sirloin, and that these represent about fifty-five per cent of the value of the entire carcass, it is obvious how important



A GOOD BABY-BEEF PROSPECT

is a correct knowledge of what constitutes a good animal. Then, too, they must have the power to mature early. The majority of animals cannot be gotten into that condition at the desired age. Early maturity must be a characteristic of the animals bred from, and particularly should the sire selected possess that special quality.

A few years ago one could scarcely pick up an agricultural paper in which he would not find some one dilating on the merits of "Feed versus Breed." In this enlightened age, however, we have all come to recognize the fact that neither feeding nor breeding will by itself produce satisfactory results, but that it is only when we get these two factors in co-operation that we may reasonably expect paying returns.

With the animal destined for the block, by far the most important period of its life is the first twelve months. For this reason it is preferable to have the cows freshen in the fall. The calves are thus given a better chance, as the owner has more opportunity to coax them along and teach them to eat. At one and a half years old they should be as well grown and quite as heavy as spring calves at two years old. When they are weaned in the spring, turned out on the fresh grass, and fed a little, they receive little or no check, but go vigorously along during the summer, and by fall have got pretty well started on the pilgrimage of life.

For the first two weeks each calf should have a quart of whole milk three times a day, care being taken to feed it at blood temperature. During the next three weeks half a quart of skim milk should be added to the whole milk at each meal. When the calf is five weeks old it should be so developed that feeding twice a day will be sufficient; also dispensing with the whole milk, and giving about three quarts of skim milk twice a day.

To supplement the loss of butter fat in milk a small amount of flaxseed meal is used. It may be prepared in the proportion of a cupful of meal to one and one half quarts of water put into a common stove kettle and kept at a temperature just below boiling for three or four hours, which reduces the meal to a kind of jelly. This is mixed with the skim milk at the rate of about a tablespoonful to a pound of milk, and may be gradually increased up to a cupful when the calf is three months old. By this time the stomach will be strong enough to assimilate and digest other food, and he should be taught to eat a little bran, oats, clover or any other dainty that he can be persuaded to consume.

It is difficult to say just how much grain should be fed in a day, as that will be governed largely by the individual qualities of the calf. However, beginning with a handful, it may be gradually increased up to two or three pounds at six months of age. It is important that plenty of roughage, as clover hay, silage, roots, etc., constitute a part of the ration, and that it be fed in a fresh, attractive condition, for on the consumption of these coarse foods largely depends the ultimate development of the digestive organs.

FEED THE ANIMAL WHILE GROWING

The growing time in an animal's life is the time at which to feed it, as it has been proven time and again that a hundredweight can be added then at less than half the cost of the same gain on the same animal at maturity. In corroboration of this, Stewart found the average cost of feeding nine animals for the first twelve months to be $3.39; during the second year, $7.97, and during the third year $12.54 for every hundredweight of gain. While these cattle were fed at a time when the prices of feeding stuffs were very high, the experiment serves to illustrate the point it is desired to emphasize—namely, the importance of early maturity and of good feeding right from birth.

When the calf is six months old the skim milk may be discontinued, having previously been gradually decreased.

In warm weather calves should be kept in during the daytime and turned out at night, so as to avoid the hot sun and flies. Particularly should day pasturing be avoided if the weather should be bright: strong, hot sunlight seems to have a bad effect, as the calves will not do nearly so well. The cooler the quarters in which they are kept during the summer time,

DE LAVAL CREAM SEPARATORS

ALWAYS IN THE LEAD

From the invention by DE LAVAL of the first practical cream separator in 1878 the DE LAVAL machines have been always in the lead.

The first "hollow" bowl cream separator; the first factory cream separator; all of the several first styles of hand separators; the first steam turbine separator; the first "disc" bowl separator, and the first "split-wing" or distributing tubular shaft separator—were each and all DE LAVAL inventions, each marking periods of advancing evolution in the usefulness of the cream separator.

So too were the first "tubular" shaped bowl separator; the first bottom feed separator; the first vertical "blade" bowl separator; the first interior cone construction bowl separator, and numberless other types of construction, each and all DE LAVAL inventions, though found so impractical or comparatively inferior, from one reason or another, that they were never put into commercial use in the DE LAVAL machines.

Every would-be competing cream separator on the market today merely utilizes some patent expired or abandoned DE LAVAL construction, and if any one of them should make pretense of denying it the patent evidence may be easily produced showing the falsity or evasion of such denial.

The new 1908 DE LAVAL cream separators mark another great evolution in cream separator construction, being new and remodelled in practically every detail, and place a still wider margin of superiority between the DE LAVAL and even the best of imitating separators.

The DE LAVAL main factories in the United States and Sweden are the largest and finest of their kind and have ranked for ten years among the model shops of the world; their equipment is the best that mechanical science and money can make it; the twenty smaller DE LAVAL factories, assembling and repair shops, in as many different countries, are relatively as superior; the DE LAVAL inventors and experimental engineers are the best of the men who have shown practical separator genius in every country, and a large staff of them is kept constantly at the betterment of the DE LAVAL machines, while the shop employes generally are the most competent and best paid in their various classes.

THE GREAT OBJECT EVER KEPT BEFORE EVERY MEMBER OF THE DE LAVAL PRODUCTIVE ORGANIZATION IS THE MAKING OF THE BEST CREAM SEPARATOR POSSIBLE AND EVER THE MAKING OF IT BETTER THIS YEAR THAN LAST YEAR.

These are the reasons why the DE LAVAL machines began in the lead and have kept it from 1878 to 1908, excelling all attempted imitation and competition in even greater degree today than at any past time.

The new 1908 DE LAVAL catalogue—affording an education in separator knowledge—is to be had for the asking.

THE DE LAVAL SEPARATOR CO.

42 E. Madison Street
CHICAGO
1213 & 1215 Filbert Street
PHILADELPHIA
Drumm and Sacramento Sts.
SAN FRANCISCO

General Offices:
74 CORTLANDT STREET,
NEW YORK.

173-177 William Street
MONTREAL
14 and 16 Princess Street
WINNIPEG
107 First Street
PORTLAND, OREG.

Thrifty Calves

A calf which won't eat means a steer which won't fat. Appetite and good digestion are essential at start and at finish. If a calf is dainty, or does not make satisfactory growth, give a very little of



DR HESS STOCK FOOD A TONIC

in the mess twice a day. Dr. Hess Stock Food (the prescription of Dr. Hess M.D., D.V.S.) is a tonic preparation which corrects indigestion, makes good blood and cleanses the system of poisonous matter. The ingredients used in it are endorsed by leading medical authorities like Professors Quitman, Winslow and Finley Dnn. Helps hogs and steers to fat quickly gives appetite for roughage, and makes cows give an abundance of rich milk.

SOLD ON A WRITTEN GUARANTEE.

Costs but a penny a day for a horse, cow or steer.

100 lbs., $5.00 } Except in Canada and
25-lb. pail, $1.60 } extreme West and Sonth.

Smaller quantities at a slight advance.

Where Dr. Hess Stock Food differs in particular is in the dose—it's small and fed bnt twice a day, which proves it has the most digestive strength to the pound. Our Government recognizes Dr. Hess Stock Food as a medicinal compound, and this paper is back of the guarantee.

If your dealer cannot supply yon, we will.

DR. HESS & CLARK, Ashland, Ohio.

Also Manufacturers of Dr. Hess Poultry Pan-a-ce-a and Instant Louse Killer.



MADE FOR SERVICE

and guaranteed absolutely **WATERPROOF**

TOWER'S FISH BRAND

OILED SUITS, SLICKERS AND HATS

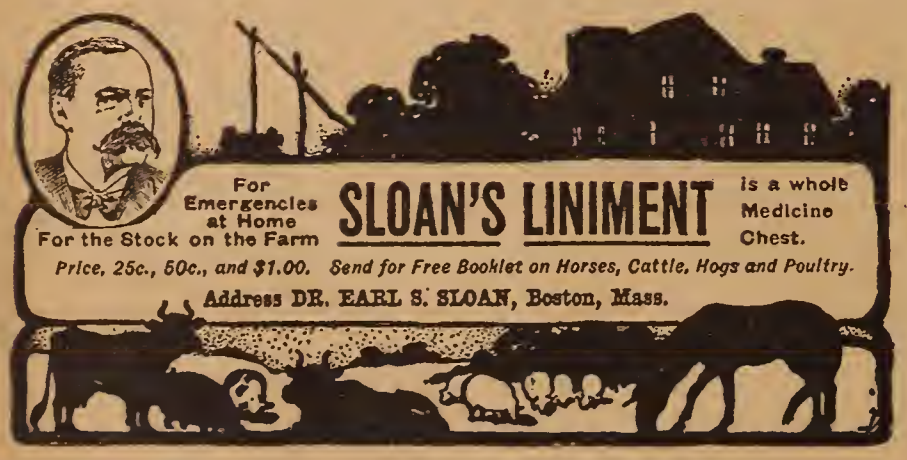
Every garment guaranteed Clean - Light - Durable

Suits $3.00 Slickers $3.00

SOLD BY BEST DEALERS EVERYWHERE

CATALOG FREE FOR THE ASKING

A. J. TOWER CO. BOSTON, U.S.A.
TOWER CANADIAN CO. LIMITED TORONTO, CAN.



the greater are the chances of success. A certain amount of green food is necessary and can be supplied in the form of ensilage, roots or grass mixed with a fair proportion of mixed meals; the greater the variety of meals, the better the results obtained.

THE CRITICAL PERIOD

The second summer is perhaps the most critical period in the life of an animal intended for early beef. While experience has shown that there is very little difference in feeding inside or outside, so far as gain in live weight is concerned, the latter method will prove the less expensive. When fed inside it is absolutely necessary that the ration consist of a certain proportion of green feed. To a certain extent ensilage will answer this purpose, but does not seem to have the same flesh-producing effect as the green grass. Of all the grass mixtures with which the writer is familiar, oats and vetches with a little clover or alfalfa hay are the most suitable. All things considered, however, it is preferable to turn them out about the first of June, being careful to keep them on good pasture, supplementing it with a small quantity of meal.

In September they should be gradually accustomed to stable conditions, by taking them off the grass part of the time, especially with the occurrence of frosty nights, and given a feed of silage and clover hay in addition to the grass and meal. In October they should be put on a regular ration. Steers that have been fed as described up to eighteen or twenty months of age should be getting about one half pound of meal per one hundred pounds of weight, and gradually increased, so that when they are sold they will be getting nearly a pound of meal to one hundred pounds live weight of the animal.

At two years of age they should weigh from twelve to fourteen hundred pounds, provided, of course, that the feeding operations during the first year and a half have been properly managed. As previously stated, the greatest gains are made in the first year, and if a calf does not make seven hundred pounds during that period there is something wrong. For the production of baby beef, steers should average two pounds a day from the start until they are ready for the block. There is then a handsome profit in the business to recompense the farmer for his intelligence and labor in breeding and feeding, besides the satisfaction of knowing that he offers to the consumer the very best that the market affords.

BABY-BEEF PRODUCTION

BY H. E. COLBY

Baby beef is neither a veal nor a mature beef. It is made from animals of about sixteen to twenty-two months of age. The calves are fed from the time they are dropped with the idea of maturing them at the earliest possible moment.

One advantage of baby beef from the farmer's standpoint is the fact that a pound of fat can be put upon an animal of this age more cheaply than upon a three-year-old steer. It is also necessary to winter them only one or two seasons at the most. Fall calves would naturally have to be carried through two winters, and could be put upon the market in the summer. The spring calf could be carried through but one winter, and that at a time when it would not consume nearly as much feed as the mature animal.

Another advantage to the farmer is the fact that he does not need steers for this kind of beef. The heifer is worth just as much as the steer.

To handle baby beef to the best advantage it is advisable to feed the growing and fattening ration up to within about three or four months before you wish to turn them upon the market. Of course, milk will be the first requisite, and right here is another point which is in the farmer's favor. The man who has a good herd of milk cows can, by the use of a separator, sell his cream and feed the skim milk to the calves in such a way as to make it pay two profits. I speak from experience in this. It is not difficult to make fifty or sixty dollars a year from a cow, and our best ones make even better than that from the cream alone. Then, besides this, we have the young beef animals, which at twenty months of age have sold at forty to forty-five dollars a head. Of course, these are extreme prices, and frequently the average will not go over thirty or thirty-five dollars, but even that is pretty good money when you realize that it is virtually a side line.

After the calves are old enough to take grain, we give them a little corn meal or a few oats. This is just to start them and cultivate their taste for this kind of feed.. Oil meal is fed from the very start, and is given as liberally as we can. It depends entirely upon the condition of the individual animal. Sometimes we can feed half a pint at a time, and sometimes less. Dried-blood flour is another standby in our calf ration. About a teaspoonful of this is dissolved in the milk for the calf, and as he matures the feed is gradually increased. This is a great bone-and-muscle-building food and is also a great conditioner, keeping the calves' digestive organs in fine shape and making it possible for them to assimilate food to a better advantage. Clover hay is also fed regularly, a handful being put before the calf long before you would think he would care for it.

As soon as the pasture season opens, we have a small, well-sodded paddock or pasture in which the calves are turned. The milk ration is kept up during the summer months; some grain is fed, though not as much. We aim to keep the calves fat all the time, as it is easier to retain this condition than to gain it after it has once been lost.

During the winter the little fellows take care of themselves in a partially open shed. An abundance of bedding is given, so that they are always dry and out of the filth. Hay is supplied in racks in the yard, unless the weather is very stormy, when it is fed inside the shed. Silage and grain are fed inside. Both of these rations will depend very largely upon the condition of the stock. We have given as high as twelve pounds of silage at a feed, and frequently we find calves that need less than eight pounds. You cannot feed it as freely to the youngsters as you can to the mature cows, at least that has been our experience. Keep giving them the oil meal in connection with the ground corn. Increase the feed gradually until you want to finish them for the market. Then I would increase it so rapidly as to check the growth and put all the food elements into fat. From this time on until you get them upon the market, feed heavily, increasing or diminishing. as your judgment suggests.

You will note from hints that I have made that a great deal depends upon the man in this kind of work. It is necessary to have good judgment and to keep a keen eye upon each of the calves.

We find that with fifteen or twenty good milk cows we can raise from twenty to thirty head of baby beef with the skim milk. We feed the calves that we do not care to raise for dairy purposes, and then pick up around the neighborhood some of the most likely looking youngsters to fill out the number.

SELECTING PIGS FOR BREEDING PURPOSES

In selecting young pigs to be set aside for breeding purposes several points are to be considered. The first is good breeding. The pig's ancestry should possess those desirable qualities which make up the real market hog. It is best to use the pure breeds. Grade sires or dams may produce scrubs, and a person cannot afford to run the risk. Time and money are at stake.

The next point to consider is that of prolificacy. Select from those families that are noted for this one thing. It is just as cheap and easy to keep a sow that will raise a dozen pigs as it is to keep one that will farrow only two or three.

In the next place, the pig selected to make a brood sow should have a form conducive to that purpose. The body should be long, and should also have depth, and the shoulders should be smooth and well proportioned. The back should be wide, especially at the hind quarters and loins. There should be good bone and muscle, and the pig should stand squarely on its legs. The chest should be well formed, and the hair thick and straight. Thin hair is an evidence of a weak constitution.

After selecting the pigs for brood sows, they should be fed with an eye to that purpose. They should be developed rather than fattened. They are to be kept for several years, and must have bone and muscle. The rations, therefore, must be nitrogenous. Don't feed a great deal of corn, as it contains very little nitrogen. Feed bran, oats, oil meal, alfalfa, clover, rape and skimmed milk. These will make the brood sow.

Feed liberally, for the pigs should obtain their growth at an early age. Keep them out of the fattening pen. They should have plenty of exercise. Let them run in a good-sized lot, and if a wooded pasture is handy, put rings in their noses and turn them into it.

W. D. Neale.

VALUE OF THE CREAM SEPARATOR

The advantage of the separator over any other method of skimming milk is that it enables one to entirely control conditions. Half a pound of fat left in each one hundred pounds of milk means a great loss in the course of a year. A good separator will take it all out at all seasons of the year and with all kinds of milk. There is no other device that will do this. It produces a heavy cream that will churn at a lower temperature, and the butter will handle better in warm weather. Much larger churnings can be made with the same power and time.

When the cream is sold, which is one of the most profitable ways of disposing of the butter fat, it can be made of any strength to suit the customer. Some customers prefer a cream of not over twenty-per-cent butter fat, while others want cream with forty-per-cent fat. By the use of the separator both can be satisfied. To do this, set the machine for the heavier cream, and when the lighter is wanted, return some of the skim milk, as this produces the most uniform grade with much less labor.

Wm. H. Underwood.

SEPARATORS OF QUALITY

Take Your Choice From The EMPIRE LINE

Different Styles—Different Prices

All Sizes in Each Style

Come to headquarters for your cream separator, Mr. Dairyman, where you will find the **best** machines of **all** good styles—

Where you can **choose** the separator that meets **your** requirements, suits **your** ideas and fits **your** pocketbook.

No matter which **style** you choose from the Empire Line, no matter what price you pay for an Empire, you cannot miss it on quality.

For in the whole Empire Line you will find that Empire inventive ingenuity, Empire constructive ability, Empire quality of materials, and Empire "know-how" which has made the name EMPIRE stand for all that's **best** in cream separator construction.

That is why **every** Empire, regardless of **style**, is better than any other cream separator made.

Better because the Empire motto is to produce the best possible, regardless of cost—

Better because the Empire experts are backed by the Empire factory, the best equipped and best manned factory in the world for the production of cream separators—

Better because these experts and this factory organization are given the best materials in the world with which to build the best separators.

As an intelligent, progressive owner of cows, you will not want to be "talked into" buying some special type until you have looked into the Empire Line.

Other manufacturers try to force their **one** "hobby" upon you—The Empire Cream Separator Company offers you your choice of all good cream separator hobbies—each developed to the highest point of perfection.

Isn't that the most sensible, businesslike way?

Write Today for Large, Handsome, Free Catalog.

EMPIRE CREAM SEPARATOR COMPANY,

Western Office: Chicago, Illinois **Bloomfield, New Jersey**

Get Our FREE BOOK

Which Fully Describes the

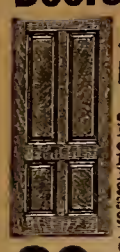
—Frictionless Empire

—The Empire Star

—The Empire Disc

It is the fairest, most impartial and complete Separator Book ever printed. Free To You.

5,000 Grand Offers!
Doors, Windows, Millwork



50% Below Dealers' Prices



Here are a few samples of our 5,000 Building Material Bargains: Doors 80c. Windows 69c. Screen Doors 93c. 108 square feet Flint Coated Roofing, guaranteed 6 years, $1.41. 100 square feet Tar Felt 90c. 45-light Hot Bed Sash $1.60. 100 lineal feet Quarter Round 25c. Base Blocks 4c. Corner Blocks 2c. Glass, 8x10 inches, 3½c. 100 feet Hardwood Flooring 80c. Porch Brackets 5½c. Porch Spindles 1¼c. Hardwood Thresholds 5c. Adjustable Gable Ornaments 80c. We save you at least 50 per cent on everything we sell for building houses, barns, out-buildings, school houses, churches, stores, etc. It pays to buy from

80c Dealer's Price **$2.00**

69c Dealer's Price **$1.75**



The Largest Plant in America Selling Direct to Consumer.
Quality & Safe Delivery Guaranteed
Not in any Trust. Absolntely independent. Our stock is immense and we ship promptly. Everything is bright and new—no "wreckage." All millwork strictly np to official grade adopted by the Sash, Door & Blind Mannfacturers' Association.

Get the Great Catalog FREE for a Postal

Best ROOFING 108 sq. ft. FreeNails & Cement **$1.41**

It will save yon big money. Packed and jammed with bargains. Our responsibility vouched for by three Big Banks. Money Refnnded and Freight Paid Both Ways if Goods are not Exactly as Represented. Write for Free Catalog.

GORDON, VAN TINE CO.
840 Case St. Davenport, Iowa
Send us your orders for lumber.

"THE OLD RELIABLE"
DIETZ LANTERNS
THERE ARE NONE "JUST AS GOOD"
WHEN YOU BUY A LANTERN INSIST ON A "DIETZ"
MADE BY R. E. DIETZ COMPANY NEW YORK
Largest Makers of Lanterns in the World
ESTABLISHED 1840
PIONEERS AND LEADERS

SHOE BOILS
Are Hard to Cure, yet
ABSORBINE



will remove them and leave no blemish. Does not blister or remove the hair. Cures any puff or swelling. Horse can be worked. $2.00 per bottle, delivered. Book 6-C Free.
ABSORBINE, JR., for mankind, $1.00 per bottle. Cures Boils, Bruises, Old Sores, Swellings, Varicose Veins, Varicocele, Hydrocele. Allays Pain
W. F. Young, P. D. F., 23 Monmouth St., Springfield, Mass.

WESTERN CANADA WHEAT LANDS
Abound in opportunity for the alert; are making fortunes for the careful investor and the intelligent farmer; afford an opportunity to start farming with but small outlay. Western Canada is making marvelous strides and her lands producing magnificent crops.

WHEAT YIELDS
Average Bushels Per Acre, Govt. Statistics

	1901	1902	1903	1904	1905	1906
Sask.	25.41	22.67	19.44	17.51	23.09	21.40
Alta.	24.58	18.36	18.65	16.58	21.46	23.85
Kas.	18.5	10.4	14.1	12.4	13.9	15.1
N. Dak	13.1	15.9	12.7	11.8	14.0	13.6
Iowa	16.2	12.7	12.4	11.6	14.2	15.7

It is becanse Western Canadian lands produce more and cost very much less that they are good buying and the shrewd investor and intelligent farmer are taking hold of them.
Our lands lie east of Warner in Southern Alberta, east of Stettler in Central Alberta, and in the Eagle Lake, Tramping Lake and Cut Knife districts of Central Saskatchewan. Prices from $7.00 to $15.00 per acre; terms easy. Information gladly given upon request.
CANADA LOAN AND REALTY COMPANY, Limited
315 McIntyre Block Winnipeg, Canada

MINNESOTA STATE LAND SALES
JUNE AND JULY, 1908
Great Opportunities to Secure Homes
TERMS OF SALE—These lands will be sold at public auction to the highest bidder. Fifteen per cent of the purchase price must be paid at the time of sale. The balance may run for 40 years at 4 per cent annual interest if desired. The title to all state land is perfect. Valuable illustrated book on Minnesota lands free; also list of lands offered and dates of sales. Address
SAMUEL G. IVERSON, State Auditor
ST. PAUL, MINNESOTA

INFORMATION ABOUT MINNESOTA
200-page book compiled by the state, describing industries, crops, live-stock, property values, schools, churches, and towns of each county and Minnesota's splendid opportunities for any man. Sent free by
STATE BOARD OF IMMIGRATION
Dept. M, State Capitol St. Paul, Minn.

Homeseekers, Come to Tennessee
Tennessee produce growers most fortunately sitnated Tennessee prodnce reaches southern markets just as extreme southern-grown produce is exhansed, and reaches northern markets several weeks earlier than northern-grown stuff, thus commanding very best prices both north and south. From $100 to $400 per acre cleared from Cantaloupe, Cabbage and Tomato crops in Tennessee in 1907; notwithstanding, this land is selling for from $5 to $20 an acre. Excellent climate; pnre water. For descriptive literature address H. F. Smith, Traffic Mgr., Dept. S, Nashville, Chattanooga & St. Louis Ry., Nashville, Tenn.

CALIFORNIA Irrigated Frnit, Alfalfa Farms. Easy payments. Special offer. New Gov't aided canal. Catalog free. Wooster, 702 Market St., San Francisco.

The **UNIVERSAL MAGAZINE** the most interesting. Send 25 cents for one year's snbscription and 12 beantiful pictnres. Address, **HALE PUBLISHING CO., 5580 Vista Avenue, St. Louis, Mo.**

Live Stock and Dairy

TURNING CATTLE TO PASTURE

THERE are different opinions as to how best to change cattle from dry feed to grass in the spring. This is a greater change than is sometimes believed, and unless it is brought about in the right way the cattle will be greatly set back. Therefore we should not neglect to give them a little more attention at this time of the year.

Some people hold their cattle from the pasture until there is a good supply of nutritious grass. During this time the cattle get no grass whatever, but are fed wholly on dry feed. When the grass is well started, they are turned to pasture, and then the dry feed is withheld. I have never been strongly in favor of this way of changing. While no doubt the grass does contain enough nutriment to keep them up, the change is too sudden. Furthermore, the cattle are kept on dry feed too long.

I am in favor of letting them get the first green spear of grass when it comes. It is not nutritious, I know, but it is an appetizer and helps to tone up the digestive organs. The change will not be so sudden, for the cattle get used to the new grass gradually. The supply of dry food should not be withheld too early, as the grass must become somewhat hard before the cattle can do on it alone.

GREGOR H. GLITZKE.

TUBERCULOSIS IN COWS

An Ohio subscriber writes me for information:

"I have been told that Jersey cattle are more subject to tuberculosis than some of the other breeds of cattle. Is this true? Are the Jerseys more delicate than other cattle?"

Tuberculosis is no respecter of breeds—unfortunately, we have the great plague in all our breeds. The Jersey is not more subject to it than the other breeds, nor more immune against it. Perhaps if we had some good old friend who would write us health hints for cows we might make more progress in eradicating the disease from our herds by guarding against it and surrounding our cows with such conditions as would discourage the spread of the disease.

I believe it is true that there has never been known a case of bovine tuberculosis in the island of Jersey, the home of the Jersey breed, and the Jerseys there are less hearty than her sisters of the dairy breeds. Naturally cows giving a large quantity of rich milk are an evolution from the original cows, that merely made milk to start the calves in the world. The wilder animals that reached maturity were the hardiest because representing the survival of the fittest. In the more finely domesticated and improved animals the primal law has been suspended, and it is not strange that the lack of wisdom as to care and sanitation on the part of many breeders has operated against the constitutional hardihood of their animals in inverse ratio to the development of constitutional performances.

Our best breeders now are safeguarding the health of their animals as the best foundation upon which to build the fabric of reliable performance.

W. F. McSPARRAN.

GREEN FORAGE FOR HOGS

An especially timely bulletin has just been issued from the Missouri Experiment Station by Dean H. J. Waters, giving the results of some experiments to determine the value of different forage crops for hogs.

Thirty-six pigs weighing about fifty pounds each were fed in lots on different forage crops in connection with corn until they were ready for market, accurate account being kept of the cost of gains made.

In cheapness of gains the feeds used ranked as follows: Corn and skim milk, cheapest; corn and alfalfa, second; corn and red clover, third; corn and blue grass, fourth; corn and rape, fifth; corn and ship stuff, sixth.

A saving of about seventy-five cents a hundred in the cost of gain was effected by using green clover instead of fresh blue grass. A saving of one dollar a hundred was effected by using alfalfa instead of blue grass.

When it is realized that alfalfa comes on early, and when properly clipped stays green all summer and until the very hard freezes of early winter, its importance as a hog pasture is apparent. Clover yields more forage an acre than blue grass, and as shown by these experiments has a much higher feeding value. It is of the utmost importance, therefore, to provide this sort of pasture for hogs rather than to require them to run on a blue-grass pasture, or even worse than blue grass, a timothy pasture, or even far worse than this, to confine them in a dry lot in the summer time.

This bulletin recommends a succession of crops for profitable hog pasture. The bulletin is for free distribution, and may be had by addressing the experiment station at Columbia, Missouri.



FIRST PRIZE DORSETS AT THE ILLINOIS STATE FAIR, 1907

kept under conditions not generally supposed to conduce to robustness, as compared with many practises in this country by which animals are supposed to be hardened.

In America there is no breed of dairy cattle of the same numerical distribution as the Jerseys, hence a given percentage of tuberculous affection will involve more individuals of Jerseys than in the less numerous breeds.

When testing and slaughtering for tuberculosis in Pennsylvania was first instituted one of the first badly infected large herds was a herd of Shorthorns.. I have known many smaller herds of mixed breeds badly affected. A herd of a hundred head of pure-bred Jerseys in Chester County, Pennsylvania, was tested recently, and there was not a single reaction. This I regard as quite remarkable. In the same county a prominent herd of Guernseys was recently found badly tuberculous. The Ayrshires are credited with inheriting great constitutional vigor and robustness, yet I know of a fine herd of cows of this breed from which a large percentage was lately killed for tuberculosis. Nor has the infection passed by the Holstein.

I have not observed that the Jersey is

OATS FOR CALVES

The great business of the growing calf is to make muscle. This muscle is what gives plumpness to a thrifty calf.

For this purpose a food is needed which is especially rich in muscle-forming material. Grass is not. For this nothing can be found that is better than oats. Not only are they rich in the material desired, but that richness is not so concentrated as to make them a dangerous food. They are neither heating nor fattening in their nature, but tend, instead, to build up muscle and give the animal strength and vigor.

In the spring, before the pastures are ready to turn onto, is the time that the calves will need this addition to their feed. If, at any time, they are allowed to grow thin in flesh, it will take a long time of good feeding and careful attention to bring them again into a thrifty condition.

GILBERT ALLEN.

U S U S
For 16 Years the Best STILL BETTER 1908



The market to-day is flooded with separators of every style and description, and all make "big claims!" But the **World's Record for clean skimming in 50 consecutive tests** is held by only one Separator, and that one is the **reliable**

U. S. CREAM SEPARATOR

in competition with all other Standard makes. Is not this convincing proof of which is best? Dairymen, "get wise."
Send to-day for Catalogue No. 69
18 distributing warehouses in U. S. and Canada.
494
VT. FARM MACHINE CO., BELLOWS FALLS, VT.

OLD BUCK ROOFING
TEN YEAR GUARANTEE
ISN'T that the kind of roofing you want?
Costs less than half the price of tin or shingles, a roofing guaranteed for ten years. **Freight Prepaid** direct from factory to you. **No Dealers' or Jobbers' Profit.**
Is there any reason why you must put your hard earned money into shingles and tin at prices that the lumber and the tin plate trusts have boosted to a point that is plain robbery. For a short time only we are also going to sell a special grade of our roofing to help introduce it at
$1.35 per Roll
Write at once for particulars about this special offer and for a copy of **"Miller the Cattleman,"** an illustrated and instructive book on roofing. Samples **free.**
Beat the Trusts
BUCK ROOFING COMPANY
Dept. N, ST. LOUIS, MO.

GALL CURE



Money refunded if Bruises, Cuts, Harness and Saddle Galls, Scratches, Grease Heel, Chafes, Rope Burns and similar affections are not speedily cured with Bickmore's Gall Cure. The old and tried remedy for these troubles. At all Dealers. Be sure you get Bickmore's. Above trade-mark on every box. Sample and Horse Book 10 cents.
Bickmore Gall Cure Co., Box 948, Old Town, Maine.

2 H.P. STATIONARY ENGINE $29.50 (ENGINE ONLY.)
FOR FARM AND SHOP WORK. Start without cranking; no cams or gears. Burns Alcohol, Kerosene and Gasoline. All sizes in stock—2 to 20 horse-power. Steel connecting rods. Anti-Friction bearings; no vibration. Write for free catalog. Run Separators, Corn Shredders, Grist Mills, Pumps, Dynamos, etc.



DETROIT ENGINE WORKS, 133 Bellevue Ave., Detroit, Mich., U. S. A.



One of **BOILER** *and Our* **FEED COOKERS**
should be on every farm. The cheapest and most economical cooker on the market. Indispensable for cooking food for stock. Also good for rendering lard, making soap, scalding hogs, boiling clothes, etc. If your hardware dealer does not handle them write to us for prices.
THE WAGNER MFG. CO. Box 101, Sidney, Ohio



MAKE YOUR HORSE YOUR FRIEND If he's a good horse he'll be better. If vicions or has bad habits all can be promptly and permanently cured by my system. Anyone can do it. Postal brings full information free. Write today.
PROF. JESSE B. BEERY, Pleasant Hill, Ohio.



NEWTON'S Heave, Cough, Distemper and Indigestion Cure. A veterinary Remedy for wind, throat and stomach troubles. *Strong recommends.* $1.00 per can, of dealers, or exp. prepaid.
The Newton Remedy Co. Toledo, Ohio.

PATENTS SECURED OR FEE RETURNED.
Free report as to patentability. Illustrated Guide Book, and List of Inventions Wanted, sent free.
EVANS WILKENS & CO., WASHINGTON, D. C.

PATENTS Watson E. Coleman, Patent Attorney, Washington, D. C. Advice free. Terms low. Highest ref.

SUBSCRIPTION PRICE

One Year (24 numbers) 25 cents
Five Years (120 numbers) $1.00

Entered at the Post Office at Springfield, Ohio, as Second-Class Mail Matter.

Subscriptions and all editorial letters should he sent to the offices at Springfield, Ohio, and letters for the Editor should be marked "Editor."

The date on the address label shows the time to which each suhscriher has paid.

Subscrihers receive this paper twice a month, which is twice as often as most other National farm journals are issued.

Silver, when sent through the mails, should he carefully wrapped in cloth or strong paper, so as not to wear a hole through the envelope.

When renewing your subscription, do not fail to say it is a **renewal.** If all our suhscrihers will do this a great deal of trouhle will be avoided.

FARM AND FIRESIDE

PUBLISHED BY

THE CROWELL PUBLISHING COMPANY
SPRINGFIELD, OHIO

Branch Offices: 11 East 24th St., New York City.
Tribune Building, Chicago, Ill.

ABOUT ADVERTISING

FARM AND FIRESIDE does not print advertisements generally known as "readers" in its editorial or news columns.

Mention FARM AND FIRESIDE when yon write to our advertisers, and we guarantee you fair and square treatment.

Of course we do not undertake to adjust petty differences between suhscribers and honest advertisers, hut if any advertiser should defraud a subscriber, we stand ready to make good the loss incurred, provided we are notified within thirty days after the transaction.

FARM AND FIRESIDE is published on the 10th and 25th of each month. Copy for advertisements should be received twenty-five days in advance of publication date. $2.00 per agate line for both editions; $1.00 per agate line for the eastern or western edition singly. Eight words to the line, fourteen lines to the inch. Width of columns 2¾ inches, length of columns two hundred lines. 5% discount for cash with order. Three lines is smallest space accepted.

Letters regarding advertising should be sent to the New York address.

Disciples of the New Knowledge

New Knowledge in Farming

It's as plain as a red barn on a side hill that the business of farming has reached a sharp turn in the road, that the ranks of the soil tillers are rapidly being separated into two camps: the Do-It-As-Dad-Did-Its and the New Knowledge Group. Right now, of course, the members of the New Knowledge Group are in the minority; the old-line farmers can outvote them on any proposition and not know that there has been a contest.

But just the same, the agricultural colleges are turning out every year an increasing number of young men who can tell the veteran farmer a whole lot about his own game. Best of all, the New Knowledge youth can give a reason for the faith that is in him; he can tell the *why* of what happens in the corn field, the wheat field, the pasture, the meadow, the barn yard and the dairy house. And the best part of it is that he is farming with an open mind instead of closed eyes and the tools that Dad used. No young man can to-day take even the "short course" in an agricultural college and not come out with the knowledge that the best and biggest thing taught him there is that the world is still moving on and that he must keep on reading and studying and listening and thinking or else he will fall so far behind the procession of progress that he can't hear the band play or the bystanders cheer.

The President's Advice

Only the other day President Roosevelt said:

"I want to see our education directed more and more toward training boys and girls back to the farm and the shop, so that they will be first-rate farmers, first-rate mechanics, fit to work with the head and to work with the hands, and realizing that work with the hands is just as honorable as work with the head."

Even the Wall Street crowd can afford to cheer this sentiment; it's the right stuff!

This declaration by the President may be a whole lot more significant than surface indications would show. There is a bill somewhere in Congress appropriating about eight million dollars of good United States money for the introduction of agricultural training into the country schools and industrial training into the city schools. Of course this is only a starter, but every live farmer will boost that bill with all the "inflooncе" he can exert. It means more to the future of better farming than he can possibly realize at the present moment. And if he has any doubt as to whether it's a real farmers' bill, honestly framed in the farmers' interests, let me whisper that it was hatched under the hat of Uncle James Wilson, aided and abetted by his able lieutenant, Willet M. Hays, of the Department of Agriculture. That ought to be enough to assure any farmer who reads a newspaper that the country and its interests are not overlooked in the bill.

Efficiency of the New Knowledge

Lately I have exchanged letters with upward of a hundred professors in agricultural colleges and graduates of those institutions, to the end of getting right down to the tap roots of this kind of education, of learning how the New Knowledge thrives when put next to the soil. It sprouts all right, according to the very definite statements which this correspondence brought to hand. Evidently there are mighty few instances in which it does not germinate when brought back to the soil. The thing which greatly impressed me in the net result of this correspondence is the truly scientific spirit displayed by the men who are pioneering the field of scientific agricultural training—their disinclination to claim results not yet thoroughly established, to have certain instances of marked success, either in their own achievements or those of their students short-time results pointed to as proof of the effectiveness of the New Knowledge. Almost every teacher in this line has sounded the warning, "This is a long-time game; it cannot be judged by short-time results." So long as this spirit holds the reins in the agricultural schools there is little danger that the faculties of these institutions are going to "get foolish" and lose their sense of proportion or their grasp on the practical.

One Complaint Against Its Disciples

The only complaint against the disciples of the New Education comes from a stock farmer who has an extensive place in Kane County, Illinois, and has conscientiously tried, he stoutly asserts, to give the graduates from agricultural schools a chance to demonstrate the value of their training in the care of his thoroughbred horses and cattle and the management of his fields. Here is the indictment: "Repeatedly I had correspondence with graduates of first-class agricultural colleges—men suggested to me by faculty members—and have met their terms and made arrangements for them to take hold of the work—in several instances discharging employees to make place for them. In every case but one I was thrown down at the last minute; the graduate did not appear, and broke his engagement on one pretext or another in a way violating every principle of fair dealing and business ethics. The only conclusion possible under the circumstances was that my offer had been successfully used to pry a larger one from some other man who was looking for scientifically trained farm help. Then the salary usually demanded by these graduates was about twice that at which first-class unschooled help was obtainable at the time. I prefer, and have always preferred, to pay fifty dollars a month to the man who is worth that money than twenty-five dollars to the man worth only that amount. But these graduates had not the slightest willingness to show what they could do before being placed on a top-notch salary. Evidently they had never heard of the Show Me principle. They wanted the limit right from the start.

"In only one instance did I actually secure the services of an agricultural-school graduate. This man may not have been representative of kind, but the plain fact is that he was indisposed to work. He wanted to boss and do nothing else—except to think of things which would involve an outlay, week by week, of double the amount of his salary."

If this complaint came from a man of small means, of doubtful credit or the proprietor of an establishment of inferior standards, the effect of it might be discounted. But I could not make any discount because I knew him to be wealthy, progressive and the breeder of some of the finest horses and other stock raised in his part of the state—a thorough believer in modern scientific methods of breeding and agriculture and the owner of one of the best-equipped and most attractive stock farms in his region of country. So I naturally incline to the idea that the young men who

Over-reaching in First Employment

graduate from the agricultural colleges are inclined to over-reach themselves in negotiations with their first employers. to be careless and unfair in the matter of standing pat on terms defined by themselves and accepted by those desiring their services, and that they are at least measurably given to "hog things" a little right at the start.

Beyond doubt this is contrary to the ethics of the business taught them in class, and is sincerely regretted by the leaders in the movement for scientific agricultural training. But the young men who are guilty of the tendencies named in the stock breeder's bill of complaint should wake up to the fact that this is the quickest possible way for them to beat their own game and discredit the whole cause of the New Knowledge. Tactics of this sort will discredit and cause distrust to spread faster and stick longer than quack grass or Canada thistles.

In the Back Office

So many of our friends now have the famous Roosevelt photograph in their homes that we thought they might like to know just how the picture happened to come into our possession.

A quiet, serious-looking man walked into our office one morning in February, and with a slight bow said, "This may perhaps interest you," at the same time unrolling the original photograph. We simply said "Gee!" Now, that one exclamation may have cost us money, but we are only human (thank heaven!).

Some fellow who has become a trained commercial machine would probably have kept his mouth shut. We didn't.

"How much do you want for it?" we inquired.

"I want one thousand dollars for it," he replied gently.

Has it been so long since you fell through the ice that you forget the sensation? Well, that was about the effect that "one thousand dollars" had on our diaphragm. We simply felt it was absolutely out of our reach, and we mourned sincerely.

But then the possibilities of such a picture began to grow on us and sink into our system. The serious-looking man told us he had been offered and refused more than five hundred dollars for it by two big New York magazines, and that he had come to us next because he knew we had a very large circulation, and that the Roosevelt Family Group (our Roosevelt calendar) had been very popular with our readers.

We ran over in our minds the possibilities, and finally, to make a long story short, we bought the negative plate outright for a little less than one thousand dollars, and we haven't regretted it for a minute, because no man, woman or child who has seen this famous photograph has failed to stand spellbound and exclaim "Gee!" or words to that effect, just as we did when we first saw it.

But the Roosevelt photograph, famous and wonderful as it is, is not the only great picture our readers will get, by any means. We have just obtained Balfour Ker's latest and most remarkable character study "Memories"—a picture that will stir the heart of every true American. This great picture will appear as a supplement in one of the May numbers of FARM AND FIRESIDE. We have no hesitation in saying that it will please our subscribers more than any picture we have produced in FARM AND FIRESIDE for a good long while. Subscribe or renew now if you have not already done so; you will then be sure to get both the "Memories" and the Roosevelt picture.

ew

Hidden Mysteries of India

By W. G. Fitz-Gerald

Customs and Beliefs, Strange, Weird and Fanatical, That Have Attracted the Attention of and Caused the Whole World to Wonder

We are too apt in this country to think of "India" in a somewhat restricted sense. Therefore it comes upon us like a shock to learn that it is a vast continent, extending from the stupendous snows of closed and mysterious Bhutan and Nepal, right down to the feather-fronded forests of the Indian Ocean, and containing 294,362,676 human beings, speaking seven hundred and seven languages and dialects, not to mention independent and semi-independent nations, states and territories.

Some of these maintain their own armies, with hordes of fighting elephants and every attribute of Oriental pomp. The vast mass of the people live in villages,



THE ARCHBISHOP OF BURMA

Here you have the new archbishop. The higher a man gets in Burma, the lower and more humble he is, he has to forget his honor

and of these probably only two or three out of a hundred are able to read. Their ways, their lives, their point of view, are to us almost incredible and inconceivable.

One woman told an American missionary she had lived in her house thirty years, but the idea of house-cleaning had never occurred to her!

The women are "married" when they are mere babies of nine and ten, and if their husbands should die, the widows are looked upon as unclean and accursed and absolutely forbidden to remarry. The death of the husband is attributed to some evil in themselves, and not so long ago they were burned alive on the funeral pyre of their husbands.

This terrible ceremony, known as "suttee," was abolished about sixty years ago, by order of the British government. The authorities are, however, averse to interfering too much with the mysteries of the Hindu religion, for they do not lose sight of the fact that the awful Mutiny of 1857, with its attendant massacres, like those at Delhi and Cawnpore, was due to the rumor among the Sepoys that their cartridges were greased with the fat of cows—to them a most awful pollution and desecration.

I give these preliminary statements in order that you may appreciate the conditions. Most people know that throughout Hindustan, from the Himalayas to Cape Comorin, the country is caste ridden—that is to say, every grade of man must live and die in the caste or kind of his forefathers. If his father was a shoemaker or a sweeper or a water carrier or a priest, *he* must be a shoemaker, sweeper, water carrier or a priest, and his son and grandson would never dream of being anything else, nor could they if they wished.

Their caste is plainly marked upon their foreheads, and the mere touch of the person of a lower caste, or even any utensil that is his, means pollution.

The gods and goddesses of the Hindus total up to the astounding number of 330,000,000.

Anything like hygiene is unknown, and would probably be despised if it were known. The waters of the Holy Ganges at Benares are eagerly drunk, though the filthy surface of the stream is covered with dead bodies; and as many as six hundred thousand pilgrims have bathed together at one time in the sacred tank at Thanosur in Lodiana, there to wash away their sins. It is no wonder that devastating plagues follow constantly in the wake of these religious orgies.

I question whether it is any use to spend good money trying to turn the Hindu to Christianity, seeing that the mysterious and indeed terrible rites of his religion follow him from *before* his birth until the moment his body is burned. Their gods are gods of blood and hideous shape, not to mention monkeys, snakes, fish and evil spirits. Deplorably poor as the people are, and famine swept, they contrive to pay the magicians from two to fifteen rupees a year to avert evil from them.

I remember the Rev. A. L. Core, a Methodist pastor of the Moradabad district in northern India, telling me that even supposed candidates for baptism when asked "Will you give up idolatry?" would invariably reply "Yes." But when asked further, "Should your child fall sick, will you offer the usual sacrifice of a goat or a chicken for his recovery?" the answer comes as readily, "Why, certainly. Would you have me see my child die, while I made no effort to save him?"

In a word, the whole life of the Hindu is religious. His scriptures teach him, and that in minute detail,



WORSHIPERS BEFORE AN IMAGE IN THE EXQUISITELY CARVED TEMPLE OF VIMALA SAH, MOUNT ABU, INDIA

how he must dress, eat, work and conduct himself in every possible relationship. As to the women, they are still more enslaved by their religion. Untold millions of them live in zenanas, or harems, soulless and mindless, but apparently happy.

One day an American lady of the Baptist Telugu Mission was touring with her husband, and arrived at a village very tired. She asked permission of a pariah woman, or outcast of the lowest type, to rest a few minutes on a bundle of hay just brought in from the tiger-infested jungle.

"No, no," cried the woman passionately. "If you sit on my grass it will be defiled, and then no one will buy it!"

It is only during recent years that our missionaries have had access to the closed and mysterious zenanas of Hindustan; and here they found hosts of grown-up women to whom the outside world was so unknown that they knew not what a flower was, or a leaf of a tree!

Medical work among these women also has most ridiculous drawbacks. A New York lady doctor, Miss Blamford, tells a curious story about her visit to a place called Koni, eighty miles from Trevandrum. The people were poor, and soaked with fever.

The houses had high walls around them, whose only means of access was a ladder of eight steps to the top. and then a leap down on the other side.

"One patient I went to see," complains Miss Blamford, "could be reached only by climbing a notched bamboo—a thing impossible to any one wearing shoes. They told me I might reach the dwelling by going around to a neighbor's compound. This I did, only to be confronted by a deep ditch with crumbling sides. Finally the sick woman, on the edge of the gulf, screamed out her symptoms, so that I was able to send her some curative medicine."

And yet this woman, who made such a fuss about accepting the doctor's service, would probably have been glad to get menial employment, as millions of her sisters do, at *four cents a day!*

One despairs of being able to tell in this limited space even the elementary things necessary to realize the mysterious lives of these people. When the Hindu boy is about eight years of age, and in some castes when he is about twelve, he is initiated into the mysteries by a guru, or teacher. Some special deity is



THE HOLY MAN OF BENARES

He is a man of considerable celebrity and fame not only in his own particular locality, but he is known all over the world

selected for him, and he is taught some mysterious Sanskrit words, which must be kept a most profound secret in after life, and which the pupil must repeat mentally or in whispers one hundred and eight times every day.

The aim of the worshipers, by the reverence paid to Satki, is to obtain supernatural powers in this life, and be united with the deity after death.

The worship includes the offering of flesh, fish, wine and mystical gesticulation. When the object desired is to interview a spirit, the inquirer visits a cemetery or burning ghat alone at midnight, and there, seated upon the corpse, he makes the necessary offerings. If he can do this without fear, all the spirits and goblins, both male and female, become his slaves.

The sect of the Kiratis are the worshipers of Devi, who in former times was propitiated by a human victim. These sacrifices being now forbidden by law, the votaries of the goddess seek to please her by offering their own blood. They pierce their flesh with hooks, cut themselves with knives, lance their tongue and cheeks, swing themselves from bamboos with hooks fastened to their bodies, and throw themselves from platforms upon knives fixed in the ground. Usually these fanatics are excited and half intoxicated with a preparation of hemp.

Next comes the worship of the sun; certain mysterious suppressions of the breath; mid-day and evening baths; standing in the dust raised by cows; the reading of the Vedas; offerings of flowers, and scores of other strange and fantastic duties, not forgetting the



PUTTING IN HOOKS FOR THE FESTIVAL



THE HOOK-SWINGING FESTIVAL

Pictures on this Page, Copyright, 1904, by Underwood & Underwood

cultivation in the home of the sacred toolsy plant, representing the favorite wife of Vishnu.

There is a great difference between Christian churches and the mysterious temples of the Hindus. These last are quite small, and of course without seats. No addresses on religion and morals are given, the reverent visitor simply walking around the building, handing over his offering to the officiating priest, and if possible getting a glimpse of, and prostrating himself before, the idol.

The scenes in some of these temples—as, for instance, that of Kalighat—are frightful in the extreme, for bloody sacrifices are being offered from dawn until dark, the blood of the victims pouring over the pavements in streams beneath a burning sun.

The Juggernaut Festival at Puri is especially impressive, and most large villages have cars of their own devoted to the god. The image has been kept in its shrine for a whole year, but is now brought outside the temple, bathed, anointed with holy oil by the priests, and finally the god is raised up before probably a hundred thousand people, who raise shouts, which once heard can never be forgotten.



HERMIT AT GEM LAKE, DOING PENANCE—EXPOSED TO MID-DAY SUN AND INTENSE FIRES—MOUNT ABU, INDIA

A very curious festival is that in honor of Manasa, queen of snakes, and on these occasions the professional cobra charmers go through their performance. This worship of the snake god is always held at the beginning of the rainy season, when the wet earth drives the snakes from their holes to work especial havoc on human life.

But it would take whole volumes even to give a list of the festivals, and the curious things that are done thereat. There are even offerings of rice, milk and fruits to the crows and the jackals; and there are gods and goddesses, as I have already said, by the million, including a goddess of smallpox, and Ola Bibi, the goddess of cholera!

Pilgrimages play an exceedingly important part in the lives of these people, and of course what Mecca is to the Mohammedans, Benares is to the Hindu. I have seen the people throw themselves on the ground in an ecstasy and kiss the very dust as soon as they have sighted this wonderful city. People save their money for twenty and twenty-five years, that they may pay for this journey and for offerings at the shrines.

The place swarms with pilgrims from every part of India, thousands of them smitten with disease, and all laden with presents for the priests. Who can describe the hidden mysteries of this city? There is one strange shrine, sacred to Vimala Devi, the wife of the god Siva, and to her once a year, in the middle of a moonless night, a kid is silently sacrificed.

Hindus frequently make a vow to mortify themselves, branding their shoulders, chest and other parts of the body with a red-hot iron which leaves the symbolical marks of their god. Devotees at Benares are often seen stretched full length on the ground, and rolling in this way all around the temples or during processions before the cars which carry the idols.

Just picture to yourself a crowd of fanatics rolling in this way and shouting prayers, quite regardless of the wounds made on them by stones, thorns and other obstacles. *Chidimari,* or hook swinging, is another favorite torture of these men. This is done in honor of the goddess Mari—amma. Before many of her temples is erected a kind of gibbet, with a crosspiece, cords and hooks. The voluntary victim is first beaten on the back by a priest until the part is almost benumbed. After that the hooks are fastened into the muscles of his back, and the devotee quickly raised into the air, amid roars of applause.

Other votaries, again, make a vow to walk with bare feet on burning coals, first of all building a big fire of wood for the purpose. Another penance is to sit in the full glare of the Indian sun surrounded by a ring of fiercely burning wood fires. This devotee will often rise up, fill a chafing dish full of live coals, and empty it over his head and bare body. Or again one may see one of these Indian fakirs with his arm rigidly upstretched above his head, in which position he has held it for *thirty or forty years,* until bone and sinew and muscle have grown in that position.

Others, again, pierce both cheeks with silver wire and sew up their jaws, so that their mouth cannot be opened without acute pain. In this way these men travel many miles, living only on liquid nourishment.

At Allahabad one sees much the same thing, and particularly do I remember there being impressed with a man lying on a bed of spikes. Others, again, were sitting on such beds, or standing on them barefoot. I have seen foreign visitors try to buy some of the spikes, but the devotee refused, saying to part with one would be sacrilege. Each spike was of wrought iron, about three inches long, pointed at both ends, and driven one inch into the wood.

Most curious of all, one saw other "holy men," who were, so to speak, standing upside down in the earth, having buried themselves up to their chest, with their legs sticking up in the air. How they breathed in this extraordinary position I was at a loss to imagine. Yet I saw the dust fly at every breath they took. Everywhere there were teachers expounding the Hindu Purana, according to which the earth rests on the head of a snake, the shaking of whose head causes earthquakes.

They also teach that the monster Rahu swallows the sun and moon, and thereby causes eclipses. Here and there one may see a few low-caste devotees, known as Bhagats, who whirl like the dancing dervishes of Cairo and Constantinople, and claim to possess magic powers of fortune telling and divination while in this frenzy.

It must be said that the "Holy Ganges" is an amazingly filthy stream. The Missouri after a freshet cannot match it. The dead bodies of animals and men float down, lodge on the bars, and are torn to pieces by the vultures. The calcined bones of human beings burned in the ghats float down the stream on little bamboo rafts, and there is just such a burning ghat in full operation on the shore in the midst of the bathing places.

And then there is the sewage of all the great towns and cities on the river, and of the whole country besides, which is teeming with domestic animals, human beings and wild beasts, including tigers, crocodiles, antelope and elephant. Notwithstanding all this, however, these hundreds and thousands of Ganges pilgrims drink gallons of the river water out of their bowls of brass.

Naturally the pilgrims want all the religious excitement they can get, and a Car Festival provides them with this. The idols are placed high on these pyramidal structures, which are supported by solid wheels and gaily adorned with colored calicoes, costly cloths, green foliage and garlands of flowers. The idol is clothed in rich garments and adorned with its most precious jewels. Thick cables are attached to the car, and more than a thousand people may harness themselves to it.

The Hindus are not behind the Egyptians, who worship the bull, the ibis, the cat, the crocodile, as well as beetles and snakes, in animal worship. Why they hold the monkey in extreme veneration is a long story; but this cult extends all over India, particularly among the followers of the god Vishnu. Monkey temples are found in forests and desert spots, and even wherever monkeys are found wild their devotees daily bring them offerings of fruit and boiled rice.

Live bulls are also worshiped, and these sacred beasts are branded with the design of the god Siva. When they die, their bodies are buried with much pomp. Then the bird of prey known as the *garuda,* a kind of kite, is so venerated that if they come across one of the birds dead it is given a splendid funeral.

Snake worship is without doubt due to fear of these reptiles. If a snake happens to get into a house, far from killing it, they feed it plentifully and offer sacrifices to it daily. The Brahmans also hold fish as very sacred, and often feed them with reverence in rivers and tanks. Lastly, not far from Karachi, in Sind, there is a tank of sacred crocodiles. The worship of evil spirits is firmly established, and there are temples specially dedicated to them. Living animals are slain in their honor, and when rice is offered before these hideous idols it has to be stained with blood.

There is no understanding the Hindu point of view,



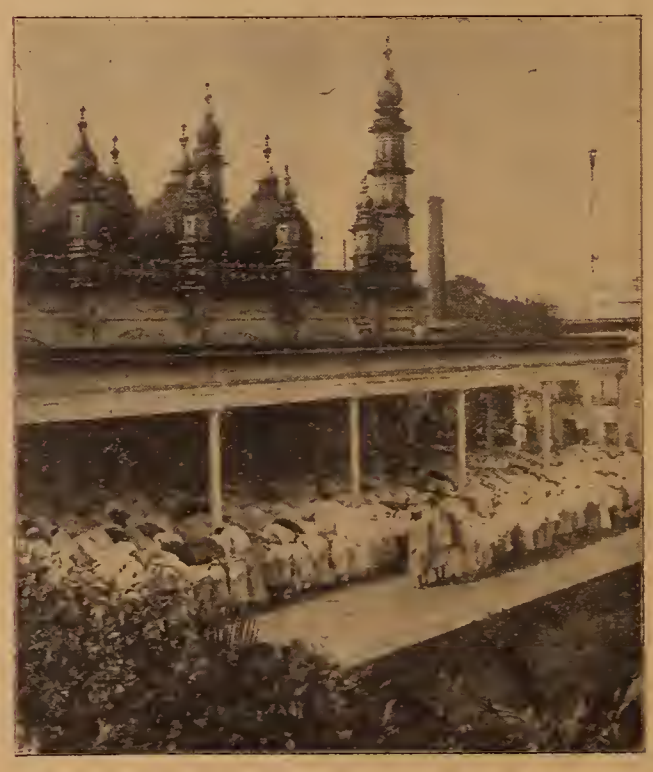
HINDU DEVOTEE DOING PENANCE ON A BED OF SPIKES, NEAR THE SHRINE OF KALI, CALCUTTA, INDIA

for a man who would be most scrupulous not to destroy even a verminous insect, and who would regard the killing of a cow as a monstrous crime, would yet take part in the burning alive of his mother.

Sick and dying people are frequently exposed to the horrors of a burning sun, and people entrusted with their care at or near a burning ghat are apt to grow tired of their charge and pour quantities of filthy Ganges water down his throat. Strange as it may seem, this is considered a pious work! When at length the sick man is dead, the corpse is removed to the burning ghat and laid upon the pyre, the upper and lower parts of which are composed of firewood, fagots, a little fragrant sandalwood and some ghee, a kind of butter.

The Manipora Brahman, an outcast, reads the formula; evil spirits are guarded against chiefly with an iron key, and the pile set on fire. What remains of the body is thrown into the river, and the son of the dead man, after pouring a few jars of holy water on the pyre, bathes in the stream, and then returns home. Corpses are brought many miles to be burned by the Ganges; and if the fire does its work incompletely, there are always the jackals and vultures. The vicinity of a burning ghat, as might be supposed, is a painful place of promenade, strewn as it is with human skulls and bones.

But for all that, ask any man who has traveled over the earth what region left the most undying impression on him, and it is a thousand chances to one he will say "India"—that magic country of palaces and brilliant light, of gorgeous temples and cruel jungles, silent rock-cut tombs, strange midnight ceremonies, and mysteries one may not even name!



THE MOSQUE GHULAM MOHAMMED

The prayers of the Mohammedan require several positions of worship: Sometimes he remains in a standing posture; sometimes he bends his head to the ground; other times he stands in line, with his body half bent forward; again he stands erect, with open hands placed behind his ears; but whatever position he occupies, his face is always turned toward Mecca



RELIGIOUS BATHING AT TIME OF SOLAR ECLIPSE



PILGRIMS ON THE BANKS OF THE SACRED GANGES

Pictures on this Page, Copyright, 1904, by Underwood & Underwood



It is ten o'clock at night, and I find myself aboard a sleeping car, bound for New York City. Not that this is anything strange, as I have many times taken this same train, bound for the same destination, but under such different circumstances. My home had always been one of wealth and happiness. I was raised as most society girls, with a ladies'-finishing-school education, a bit of German and French, also music, both voice and piano, but not enough of any to know much about them. My existence had been for a good time wholly—parties of all kinds, late hours, both morning and night. In other words, I had lived an indolent life. Still, no different from that of all my friends.

My mother, while she lived, was a butterfly of fashion, never thinking of home or family. My father was a very successful business man, earning the pennies while mother spent the dollars. He was noble and kind to every one, in every way possible. They tell me I have his will power and some of his good sense. At eighteen my life was clouded by the death of my mother. We had been society girls together, going to all the functions, father not liking society. So I missed her as a chum, not as most girls miss the one who should be the nearest and dearest to them.

As the years passed on, father and I found what we had missed before in each other. We now were always together, doing much traveling and enjoying life to its fullest extent. We had a beautiful mansion and a score of servants, so that I was free from care. In the midst of our perfect happiness the Stranger came and took my father, my all. I say all, for after a week of sadness, such as only those who have passed through it know about, our family friend and lawyer came and informed me that I, the much-petted, spoiled Miss Curtis, was a pauper, my father leaving enough notes due the lawyer to take everything, even my jewels, to pay them. I was not angry; I was stunned. What was I to do? I had no relatives upon whom I would thrust myself for life. They had always been envious, anyway, of my good times and good looks.

Mr. Thomas, the lawyer, having waited as long as he thought proper, informed me he wished to move into his new home, and wishing to make a few alterations first, almost put me out of the house. I will not dwell upon the sadness of the days that passed. I at last made up my mind to go to New York. There one can lose her identity. New York, the large, wicked city, is the home of the rich and poor alike, the best and worst of this world's mortals living within a few blocks of each other. Thus my story finds me starting for my future home. My mind is not made up what I shall do. I must do something, and at once.

First I will go to one of the many open doors for working girls. I had often read of them and thought what a splendid thing they were for our large cities. Now I shall test their hospitality. I arrived in New York in the morning, and took a car to the home I had chosen. I talked over my condition with the matron, telling everything except my name. I could be a companion or a governess, but she knew of no position for me as such. I preferred being in somebody's home, rather than being in a store, to spend my small wages on a cheaply furnished room, with little enough to eat. Anyway, I would have a room and food in a home. The matron asked me if I objected to housework. "Oh, horrors!" I said; but I am not independent any more, so I added, "Perhaps I could do second work." Can one imagine my feelings when she came to me in the afternoon and told me she had found a situation with one of the directors—a lovely lady? She had told her only that she thought I would prove satisfactory. So in the morning I left for my new home. As I left, the matron said, "Now, my dear, you are starting life anew in a new position; you are not your own mistress; you will have many heartaches, many sad hours, but when you need help, come to me. You are a lady, and I know you will succeed." I swallowed hard, then threw my arms around her neck and buried my head on her shoulder and had it out. I felt better after that, and then went out to fight my battles alone. Some say this is a cold world. I say yes, and no. There are many lovely people when we know them. My new home was a beautiful one of brownstone, one, were I to mention its location, that would be well known. I was met by a small, middle-aged woman, who was the housekeeper. She talked over my duties, and I found I could do all that was required of me. I liked her, and I knew we would never have any trouble. Soon I was taken through many exquisite rooms to my new mistress. She was a large woman of about fifty.

After our talk was over I was taken to my own room. My first duty, which I dreaded, was serving at luncheon. I first saw at this meal Miss Alice, the daughter, a girl of twenty years, thin features of grayish-yellow hue, hair the same color, and eyes of faded blue—a languid and lazy girl. The son and father lunched at the club down town, so I would not see them until dinner. At first sight of Miss Alice I shuddered, she was so horrid. I learned even at this early stage that she would hate me; for, excuse me for saying it, I am good looking even in apron and cap. She was snappy to her mother and scolded me as I moved a little slowly in serving her rolls. Her mother tried to smooth it over a little by saying, "You do not feel well, to-day, do you, dear?"

I was glad when luncheon was over. I finished washing my glass and silver, only to find the bell ringing continually, each time bringing ladies and girls and many men. I learned from Nora, the cook, that this was one of Miss Alice's "at home" days. Nora said Miss Alice would be one of the wealthiest girls in New York some day. I had to carry tea between rings, and many were the unkind things I heard behind Miss Alice's back. I wondered if the friends that used to throng my home were of this same deceitful nature. Miss Alice wore a vivid green gown this afternoon, which added to her hideousness. I heard one remark passed as I was serving Miss Way and Mr. Thompson. Some one remarked that Miss Alice had a new maid. "Yes," answered Miss Alice; "a perfect ninny, with no recommendations." Mr. Thompson said, "Just like Alice. It is because the maid is superior. By the by, has Jack and Emma broken off?" I then had to pass on, my cheeks aflame. I wondered who Jack and Emma were. I was soon to meet the former. The afternoon passed very rapidly. I, with the assistance of Mary, the upstairs maid, acted as if I had always answered bells and served guests. At dinner Mary also assisted. I there saw Mr. Richardson and Mr. Jack for the first time. They were both fine-looking men, and both dark. They looked me over, and I thought I detected a pleased look on Mr. Jack's face. Miss Alice had gone to her room, worn out with the afternoon's excitement, and as she wished to attend the theater in the evening, she tried to steal a little nap.

Mrs. Richardson tried to keep up the conversation at the table, telling of the different ones that had called, but each name brought forth some unpleasant remark from either father or son. I wondered, as I finished my work that evening, how I could stand it; but if I could not, how could that dear wife and mother stand that atmosphere all her life? I remained up rather late, even after every one was asleep. I heard, I thought, a bell somewhere, so I started to investigate. I answered all except the basement. I saw coming to the front door, then, a man, whom I recognized as Mr. Jack. I opened it, to find him very much intoxicated. He said the governor would not let him have a night key, and I was a brick for letting him in. I guided him to his room, thinking by so doing he would not disturb the one who needed rest. My first day was over. I had done well, I knew. I had borne my cross from Miss Alice, which seemed hard. I had made up my mind to win out in spite of her. Mrs. Richardson came down first next morning, and seemed to be looking for me. "Frances, did you help Mr. Jack in last night?" she asked. I answered that I did. She said, "Why, did you? It was more than kind." I told her, by so doing, I thought he would not disturb the household. "Ah, Frances, you do not know a mother's heart. Mr. Jack comes home once in a while like that, but I cannot sleep until I know he is settled and quiet for the night, as he is still my baby boy." Mr. Richardson had breakfast with her, but he was buried behind his paper, and never spoke. She opened and read many letters. Miss Alice had breakfast in her room, while Mr. Jack slept off his night's dissipation. After breakfast Mrs. Richardson spoke to me, saying I did very well for a new girl, and asked me to help her into her coat, as she was to attend a board meeting. She leaned against the wall, saying she had a headache and dreaded to go. I asked her if she could give me a few minutes, and I would cure her head for her. So we went to her room. I took down her hair and rubbed her head for a time.



"Mrs. Richardson . . . . kissed the cheek which her daughter had struck"

What this poor woman wanted was love and attention more than medicine. She was so grateful for my little act. Each day since I came has been sunshine and shadows. The lives of this family were lived in a rush. I shall not go on and bore you with my life each day while there. Miss Alice was always cross to me, but I stood it, as each time it happened when her mother was near, and it was followed by a kind word or a sweet smile. I loved this woman, abused by husband and children, each unworthy to even speak to her. Should I try to tell of all the good deeds of this lovable soul, time and space would fail me. She was always doing for others. Baskets filled and carried to sick and poor; visits made to poor homes, where she always left the ever-needful money; but, best of all, her sweet, happy smiles. These charities were not for any society but her own. Nobody knew of them but He who knows our every act, and she lived as if her only wish was to please the Giver of all these good gifts. Miss Alice was always busy, either going to parties, theaters and luncheons, or having the house full all the time. I learned whom to expect. She had many friends of the opposite sex; but one would expect that, as she was to be such an heiress. Notes and flowers, also many invitations, came from Mr. Thompson, Mr. Wyckoff and Mr. Coles.

These three seemed to stand on an equal footing, and while there were many others, they seemed the favorites. They were always kind to me. I rather hoped, though, she would not choose Mr. Thompson, as he seemed so different from the rest. In every place he seemed a true gentleman. She even treated him mean at times. Before her guests Miss Alice was a very different girl than the Miss Alice in her home.

One evening I heard her telling a company playing whist, when one had spoken of the new maid, "Oh, yes, you find such in the alleys and slums, but mother insists she is the best we have ever had, and has taken her as her own maid, with her other duties, and doubled her pay." It was true, I was Mrs. Richardson's maid now. She had asked me to do little things for her, until I asked if I could not fill that position also, having much time left after performing my other duties. I wished to be near this dear mother and have her influence around me. A few times, when Mrs. Richardson had much to carry on her mission tours, she invited me to accompany her in the carriage. These trips I enjoyed as much as she, each time coming home satisfied with my lot, also feeling like joining Mrs. Richardson as she often sings, when I know her heart is full:

"When upon life's billows you are tempest tossed,
Feeling all discouraged, counting all but lost,
Count your many blessings, name them one by one,
And it will surprise you what the Lord has done."

One evening, after a large dinner party, they were all going to the theater. They had all passed out but Miss Alice, Mr. Thompson and Mrs. Richardson. Miss Alice had found much fault at dinner. Then, as I helped her into her coat, I caught my finger in her hair. She turned and slapped me. Can I ever forget that moment?

Hate, anger, jealousy, everything wrong and wicked swept over me. She and Mr. Thompson passed on; Mrs. Richardson paused, and kissed the cheek which her daughter had struck. My anger fled, and I was happier than I had been in the six months I had passed in that unhappy home. But I never forgot. I was sorry to see the seeming affair between Miss Alice and Mr. Thompson progressing so rapidly. He called now every day. I knew Miss Alice loved him, and I also knew he had not as yet asked her to share the rest of his life.

At just this time came the Count. The parties that we had then were numerous, also dinners and drives, with lunches afterward. I wondered if this was to make Mr. Thompson jealous. One evening they had all gone out but Mr. Jack. He was reading in the den, away down the hall. The bell rang, and as I answered and admitted Mr. Thompson, he said Miss Alice would soon be home, and he would go into the library and wait.

[concluded on page 21]

The Housewife

A Vacation Substitute

BY MRS. T. H. JOHNSON

Having in mind the hot summer days, and worse yet, the hot sultry nights that will soon be upon us, I want to relate a bit of our own experience for the benefit of many of my sister housewives who find it so nearly impossible to get away from home for the real vacation, which has come to be considered almost a necessity for the preservation of health, and which really means, after all, only a temporary change in the regular occupation or place of residence, and often fails of its purpose because of its complexities.

Three years ago, when the hot days put in their appearance, and some of our friends were betaking themselves to resorts, and others to their summer camping grounds, and subjecting themselves to much inconvenience and expense, we purchased a new fourteen-by-sixteen-foot wall tent and pitched it on our large lawn about two hundred feet from the house. This we easily curtained off into three sleeping apartments, brought out three beds, a small table and chairs, and all was ready in short order for occupancy.

One could scarcely believe, until having tried it, what a luxury this proved to be in many ways. No more stuffy nights in the house, but instead, a cool, airy place, where sound sleep and restful nights were assured. No headaches or drowsiness in the daytime, and no sneezing or catching cold, and such appetites as it gave us!

The tent was so placed as to get a full forenoon of sun and a whole afternoon of shade, and by night a comforter was always welcome. Then, too, what a difference it made in the house and the indoor work. With no sleeping in the house, it was so much larger, and could be rearranged so completely that it seemed almost like a new one. Taken altogether, we consider it one of our best and happiest conceptions.

We used this tent two long seasons, moving it occasionally onto a fresh plat of grass, and with us the outdoor sleeping apartment has become a fixed institution. As the top of the tent seemed too old for the third year, we built a wooden tent the same size—sides five and one half feet high, with the usual slope of the A roof. We boarded it up all around to the height of three feet, with ceiling placed vertically, and for the other two and one half feet we used the walls of the old tent, tacked along the top and fastened to a strip at the bottom, so that it could be rolled up like a curtain. For the ends we used the ends of the old tent, using roofing caps and nails to tack to the studding. We put in a wooden floor and a good roof, with two windows in the roof (that served as storm windows on the house in winter), and a doorway in one end. We are fixed now for several years, and will use the "pavilion" for sleeping from early spring until snow flies, and enjoy such rampant health as will surprise the natives.

Now, my sister readers of Farm and Fireside, if you want to enjoy a continuous summer outing, and yet have all the comforts and luxuries of the home, and your work cut in two in the middle, go and do likewise.

The Grub and Brick Stitches

The grub stitch is novel and easily made. Cast on an even number of stitches and knit one, purl one for four rows, then reverse for four rows, until the band is long enough.

Another effective stitch is the brick stitch. Cast on some multiple of four and knit two, purl two for seven rows. Knit one row plain, then purl two, and knit two for seven rows. Again knit a plain row, and repeat from beginning.

The reversible basket pattern is almost as simple as those just described, but has the appearance of being much more elaborate. Cast on some number divisible by ten, and two extra. Knit one row.

Second row—Knit seven, purl three, and repeat, ending with knit two. Repeat second row nine times.

Twelfth row—Knit two, *purl three, knit seven, and repeat from *. Repeat twelfth row nine times, then repeat from second row for the length.

In all these patterns, and in fact with all work that needs to be joined afterward, it is always best to add two stitches to the number called for—one for the beginning of the row, the other for the end. The latter always is knit plain; the former is slipped as though to purl, keeping the wool in front of the needle.

AN AFGHAN KNITTED DOUBLE

A feminine afghan that is decidedly new is made in double knitting, which, as those familiar with it know, looks like plain knitting on both sides. And if the stitches are slipped from the needle it will be seen that the work actually is double, pulling apart like the two sides of a bag.

To develop double knitting for this purpose, take fourfold Germantown wool and work as follows: On No. 6 bone knitting needles cast the stitches necessary for the width of the afghan and knit one row.

Second row—Knit one, *bring the wool forward (not over the needle), slip one as though to purl, knit one, throwing the wool twice over the needle to do so, and repeat from *.

Third row—Knit one, then knit the slipped stitches of the second row, and slip the knitted stitches, always keeping the thread forward when doing so, and always dropping the two loops in one long stitch.

The third row is repeated until the work is of the right length, then the slipped stitches of the last row are run upon one thread, and the knitted stitches upon another, after which the work may be pulled apart. For the pocket thus



THE GRUB STITCH IS NOVEL AND EASILY MADE

formed is prepared a mat the same size as the afghan. It will be of the thinnest silk, matching the wool or contrasting with it, as taste dictates. The silk should be double, and between is the merest layer of perfumed wadding. After the mat is placed within the pocket the whole thickness is caught together with an occasional tuft of baby ribbon. The stitches now again are taken upon the needle, one from each thread alternately. Then one row is worked by knitting two together the entire way across, after which the stitches are knit and bound off.

Like the popcorn-stitch afghan, that in double knitting may be finished with a frill of lace, or the edge may remain unadorned.

APPROPRIATE WOOLS TO USE

A word as to wools for the masculine afghan. Fourfold or eightfold Germantown wool is used almost exclusively, although occasionally knitting worsted is pressed into service. But while the latter undoubtedly has strong wearing qualities, the range of colors is too limited, and it is too heavy.

When we speak of afghans for use with the solid, square furniture of Flemish oak, we conjure up a picture of deep-toned greens and tans and browns. Indeed, so lovely are these first designs of what is practically a new school in this work, that all who see them are thrilled by their artistic beauty.

The World's Baking

When one reads a quotation from a London trade journal that Scotch bakeries furnish ninety-four per cent, French bakeries eighty-four per cent and American bakeries only fifteen per cent of the bread eaten in these respective countries, the reader may be pardoned if he infers that Scotch and French housewives are either unskilled in the art of baking or indifferent to the importance of this branch of domestic economy. And yet the inference would be unjust.

In Scotland every village or town of any importance has its co-operative bakery that furnishes pure, healthful, well-baked bread at a cost lower than the individual family could furnish it. Many of these co-operative societies date back to a period when our modern stove oven was unknown. Our country, progressive as it is, has much to learn of the value of co-operation. Almost every community in England and Scotland has its co-operative society, which deals in practically all the necessities of life. An American village supports half a dozen storekeepers and their families, while a Scotch village of equal size supports but a single store, and in that one nearly every family is a shareholder. R. G.

When the Girl Leaves College

It will be but a matter of weeks when the doors of our colleges will be opened and our girls will be journeying north, east, south and west to take up some life work. Writing along this line, Temple Bailey asks, "What, young woman, is your ambition?"

The answers would be varied, perhaps unsatisfactory. There is generally a certain indefiniteness about the plans of a girl who stands between the school life and the real life, and the first year after graduation is often the most discouraging and trying period of her existence.

For three or four years she has been surrounded by all the conditions favorable for study; all conflicting interests have been kept away. She is encouraged by her teachers, she is given quiet by those who understand her strivings. She has the inspiration of contact with great minds and the earnest competition of her equals in intellect. In most colleges she lives in comparative luxury, amid refined surroundings and among well-bred people. The atmosphere is one of culture, and to this she becomes accustomed.

She goes home. If her family is poor they probably live in small quarters. They have made sacrifices to let the daughter of the house have the higher education. Now they expect results. From calm the girl comes to noise and bustle. Perhaps she has not a room to herself; there is little time for reading or study. There are distasteful duties to perform—beds must be made, rooms swept and dishes washed. She misses the inspiration of the college atmosphere. She is painfully conscious of the lack of the things which have become necessary to her, and while she may loyally refrain from criticism, the homely surroundings, the signs of economy, the sordid and practical side of the struggle for a living, come upon her with a force that leaves her breathless with disillusion.

But she has her ideals and her theories to fall back upon, so she takes heart. She resolves to become the household fairy. Her beneficent influence shall bring peace and prosperity. She is perfectly sure that she can find a lucrative and honorable position.

She starts out. She writes letters and applies personally for work. But at last



THE BRICK STITCH IS EFFECTIVE FOR LARGE AND SMALL AFGHANS

she realizes that she has come face to face with the world, which will judge her not for what she knows, but for what she can do. She struggles along, and finally her beautiful theories fade. She accepts a humble position outside her chosen sphere or retires from the field beaten.

Difficulties, too, lie in the path of the girl who has all that wealth can give. There is the gaiety, the whirl, the pulsing, brilliant life of society. There is the young man who fills up so much of her thoughts; and suddenly she finds that the dreams of her college days, the ambitions of her thoughtful moments, have been submerged by the material, the pleasant, the frivolous. She wonders if she is the same girl who planned to spend a part of her time at some social settlement, or to make a name which should mean much more to the world than her father's money.

Perhaps both of these girls instead of being the failures they seem are fulfilling greater destinies than they could have mapped out for themselves. The first girl, if she does her little work bravely, may be trained into a nobility of character which she lacked in her impatient, strenuous days. The very lowliness of her beginning may spur her to her greatest effort.

The other girl may go from her social frivols into a home of her own, there to live a life of gracious and generous womanhood, a controlling influence in her family and in the community.

No girl should be discouraged if she does not at once find her niche. She must choose carefully and not allow herself to be blinded either by egotism or optimism. Neither must she decide upon a life work because of its conspicuousness. All women are not great nor fitted to startle the world.

Ambition was a word rarely spelled in the life of women of the past. Any wish for fame or notoriety was considered unworthy of a gentlewoman. In girlhood her ambition did not range beyond the arts of home keeping and housekeeping and of society. After marriage personal ambition was merged into ambition for her husband.

To-day, however, nothing is withheld; women enter every field, and one is reminded of the little Jack Horner of nursery-rhyme fame, who

"Put in his thumb and pulled out a plum,
And said, 'What a good boy am I!'"

So with our girls. They have pulled out their plums of opportunity, and, being remarkably pleased with themselves, they make a twentieth-century statement of the nursery-rhyme proposition, and cry, "Behold, are we not wonderful?"

But a girl should not feel that only great things are worthy of her; she should not despise the drudgery of housework and office, for these, too, are worthy.

In deciding upon a life work the *first* and main question should be, "For what am I fitted by temperament and training?"

Aim for success. Do not select a calling which is beyond you. It is better to be a good housekeeper than a poor teacher. It is better to be an expert stenographer than an inferior lawyer. It is better to be an efficient nurse than an inefficient doctor. Perhaps the more ambitious calling will bring a slight notoriety in the beginning, but if a girl wishes to take a worthy place in the world she must not only follow her bent, she must consider whether she has strength for the long race.

Therefore, before choosing her vocation she must face the matter bravely. She must study herself and analyze her deficiencies. She must answer the following questions: Have I possibilities great enough to make success in my chosen work inevitable? Have I the courage to work hard? Am I sensitive to criticism and easily disheartened? Have I the physical strength to compete with those who are my equals, and perhaps my superiors? Have I the moral and spiritual strength to resist the temptation that overpowering ambition brings?

In Mr. Dodge's painting "Ambition," in the Library of Congress at Washington, the weary crowds who have climbed to the summit of the mountain to reach the Unattainable Ideal find there only disappointment, for that which they seek flies away on a winged horse, bearing with him the palm branch of complete victory. The disappointed faces, the awfulness of selfishness, as each one pushes back the other in the strife to gain the highest place, are visions both horrifying and depressing.

Put aside, therefore, unworthy ambition; put aside a resolve to succeed at the expense of all else. Try to choose wisely. The happy woman, and the truly successful one, is she who fills the place where she is most *needed*.

Some day, when sorrow and loss, and perhaps dishonor, have touched the life of the girl who now looks forward to a rosy future, money and fame will seem of little value. She will see things in their real order of merit. Love and honor and kindness will seem the greatest things in the world, and she will then realize that she has attained true success only as she has been true to the best that is within her.

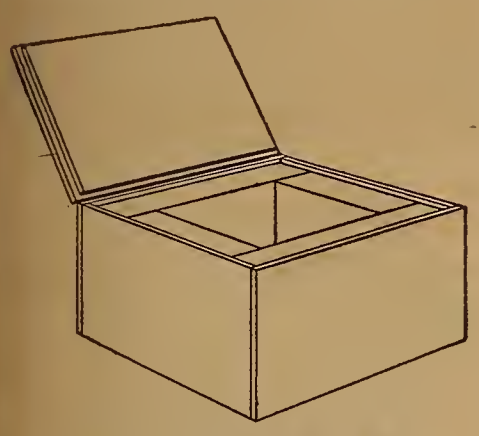
Devonshire Meat Pie

Remove the meat from a knuckle of veal. Put the bones in a kettle, cover with cold water, and add one slice of onion, one slice of carrot, a bit of bay leaf, a sprig of parsley, twelve peppercorns and two teaspoonfuls of salt; then heat slowly to the boiling point. Add the veal, and let simmer until the meat is tender; remove the meat and reduce stock to two cupfuls. Put a one-half-pound slice of lean raw ham in a frying pan, cover with lukewarm water, and let stand on the back of the range for one hour. Brown four tablespoonfuls of butter, add four tablespoonfuls of flour, and when well browned pour on gradually, while stirring constantly, the two cupfuls of stock; then add veal and ham, each cut into cubes, and let simmer for twenty minutes. Put in a serving dish and cover with a top made of puff paste of correct size. It is much better to bake the paste separately and cover the pie just before sending to the table. Puff paste must be used for patties or vol-au-vents, but plain paste is satisfactory in all other cases.

A Handy Ice Box

The farmer who does not care to purchase a refrigerator may construct an ice chest which will answer the purpose. It may be made as follows:

Secure two pine boxes from a merchant in your nearest town—one thirty inches long, twenty-four inches wide and sixteen inches deep; the other thirty inches long, eighteen inches wide and sixteen inches deep. These sizes are about right for a small family. The smaller box should be lined on the inside with zinc, and a tube should be made to protrude through the bottom of the box, for a water drain. After putting two inches of sawdust in the bottom of the larger box, set the smaller one into it, letting the drain tube project through a hole in its bottom and leaving a three-inch space all around between the inside of the larger and the outside of the smaller box. This space should be filled with sawdust tamped down tightly. In order to keep the sawdust from sifting over the edges of the smaller box, oilcloth may be tacked from the edges of the larger to the edges of the smaller box, thus covering the sawdust. A lid may then be constructed that will



EASILY CONSTRUCTED ICE BOX

cover the larger box. If it can be made out of two thicknesses of boards, so much the better. It can be attached to the larger box with ordinary hinges. In order to give the box a presentable appearance, it may be covered with oilcloth or some cheap calico. If it is desired to make the box a better ice preserver, newspapers may be put between the oilcloth and the outside of the larger box.

The ice box can then be set on a frame constructed for that purpose, and may be kept in a cellar, kitchen or on a porch that is shaded. For ten years I have been using such a box, and have found that it keeps ice as well as a refrigerator, if not better. By wrapping the ice in two or three thicknesses of paper I have made fifty pounds last nearly a week in extreme hot weather. The expense of making such an ice box is hardly worth mentioning. The last one I made cost me about fifty cents. I was out nothing except for the lining and hinges. If the box is taken care of it should last for eight or ten years. W. D. Neale.

Seasonings and Sauces for Vegetables

Much of the excellence of well-cooked vegetables depends upon the proper use of seasonings and sauces. The seasoning selected should undoubtedly be suitable for the dish, but so much depends upon custom that only general suggestions can be made. The Italians and some other races are much fonder of garlic than Americans, the Germans of summer savory or "bohnenkraut" in string beans, and the English of mint with peas. Each housewife must select the seasonings which her family prefers and endeavor to use them in such a way that the special flavors may be most satisfactorily brought out.

M. P.

Cream Peppermints

Put two cupfuls of granulated sugar and one of water over the fire and boil until the mixture hairs. Then remove from the fire and beat with an egg whip until it becomes white and creamy. Flavor with one fourth of a teaspoonful of essence of peppermint and drop in wafers on paraffine paper. If the flavor of chocolate is desired, dip lightly into melted, unsweetened chocolate, as directed for chocolate cream, taking care to drain thoroughly. E. R.

House and Home

In my girlhood I paid a visit to friends whose home was a country parsonage. Part of my entertainment was in driving around with the pastor and his wife to call on the congregation. I remember many delightful incidents of my stay in that sweet home, fragrant with love and beautiful with courtesy, and I wonder sometimes what has become of the girls and boys who grew up in that rural parish straggling over so many miles. One home I particularly recall, because unlike most in the countryside, it was falling to decay. The evidences of misfortune and neglect were multiplied—the porch had broken steps, the chimney was falling to pieces, the house had not been painted for years. The man of the house was an artist whose pictures never found a market. His wife had the look of the woman who has borne many children and who has ceased to care about appearances. Nevertheless, within those dilapidated walls and under that leaky roof there was good cheer. There was a bubbling up of song; a light-hearted gaiety prevailed, and when a young girl stood on the threshold, holding aloft a bunch of roses she had gathered for me, the whole family were as glad as if she had announced that she had found a gold mine.

"Money," said the minister, as we drove away, "money the G.'s haven't any, but they have something better—they have a *home.*"

I agreed with the minister's wife that at least a little more money and a little more thrift might have smoothed the path for the wife in that abode, but I felt what the good man meant to convey. Some of us spend so much time and thought on our housebuilding that we never get the scaffolding down. Some have at first too large an ideal. I once saw a house in a Southern state which the owner had been forced to abandon before it was finished. On a grand scale there were rooms of stately amplitude and the dimensions of a palace. But a day had come when mason and carpenter had packed their tools and departed. The house, that was not half done, bore unwritten on its front, for the spirit's eye to read, "This man began to build, and was not able to finish."

In nothing do we ever make a greater mistake than in spending more than we can easily afford on the mere shell of the home; the house is only that. If we have the right understanding, the right perspective, we shall be contented with very plain furniture and very economical living if we may thus go on with the home building, that is carried on never to completion, but always to richer development.

M. E. S.

A Use for Prune Sirup

In serving prunes, I find that the sirup is generally left in the dish, and only the prunes eaten. This sirup cooked with stewed apples or put into a rice or bread pudding gives a delicious flavor. The juice of canned blackberries and cherry preserves can be used the same way.

L. C.

Lettuce Salad With Cream Dressing

The needs are: One large solid head of lettuce, one tablespoonful of vinegar, one half teaspoonful of salt, one fourth of a teaspoonful of pepper and four tablespoonfuls of thick, sweet cream.

Remove the outer leaves from the head of lettuce, leaving only the crisp, clean bleached leaves. Break the leaves one by one from the head, and if perfectly clean do not wash them. If not clean, wash quickly in cold water and drain. Tear each leaf into three or four pieces; put the shredded lettuce into a large towel or napkin and place on the ice or in a cold cellar. At serving time put the lettuce in a salad bowl. Mix the salt, pepper and vinegar in the salad spoon and sprinkle over the lettuce; stir well, then add the cream, a spoonful at a time, and mix by tossing the lettuce lightly with the spoon and fork. Serve immediately.

Tea Punch

Make a strong infusion of tea, by pouring a quart of boiling water over a tablespoonful of Ceylon or English breakfast tea, and letting it stand until cold. Strain it, and add the juice of three lemons and three oranges, the pulp and juice of a shredded pineapple, and one pint of sugar. When the sugar is entirely dissolved, add one quart of Apollinaris and one quart of strawberries, raspberries or Maraschino cherries. Pour this over a block of ice in a punch bowl, and as soon as the mixture is chilled it is ready to serve. R. S.

Lemon Sirup for Making Lemonade

An excellent sirup for use in making lemonade is made as follows: Into the juice of twelve lemons stir the grated rind of six, and let the mixture stand over night. Make a thick sirup of six pounds of white sugar, adding a little water and cooking over the fire until it is a thick, smooth sirup. Set aside to cool, then strain the lemon juice into it. Bottle in glass jars or bottles with glass tops. This is the most economical method of making iced lemonade, since one gets the full value of both sugar and fruit with none of the white skin. A little crushed ice should be placed in the bottom of the glass with one spoonful of the sirup. It may be used in making custards, pies, etc., and one should always have it on hand for instant use. M. K.

Singer Talks

4. Evidence of Positive Supremacy

¶ There are forty-six manufacturers of sewing machines in America.

¶ How many can you name? How many did you ever hear of?

¶ One name comes to the mind of every woman immediately—the Singer—and there's a very good reason.

¶ The Singer makes and sells as many machines in a year as *all* the *other* forty-five manufacturers *combined.*

¶ The Singer Sewing Machine is known as the *best* sewing machine in every country on the globe. There is a Singer store in every city of the world. Why?

¶ Because, when you buy a Singer you do not buy simply so much wood and steel—you buy the latest result of the longest and best experience.

Sold only by
Singer Sewing Machine Company
If a Singer Store or Singer Salesman is not available, address us at Room 1130 Singer Building, New York City

Three generations of Simpsons have made
SIMPSON
EDDYSTONE PRINTS
Founded 1842

Ask your dealer for
Simpson-Eddystone
Silver Greys
The time-tested old "Simpson" Prints made only in Eddystone.
Up-to-date patterns with old-fashioned quality. You get splendid wear, absolutely fast color and good appearance.
Some designs in the new silk finish.
If your dealer hasn't Simpson-Eddystone Prints write us his name. We'll help him supply you. Decline substitutes and imitations.
The Eddystone Mfg. Co., Philadelphia
Established by Wm. Simpson, Sr.



School Supplies

Make book covers, pen wipers, colored inks and school bags. Ink may be made by boiling one and one half pounds of logwood with sufficient water to leave a residue of two and one half quarts. When cold, add one and one half drams of yellow bichromate of potash, stir thoroughly, and the ink is ready for use. You may also keep a supply of writing tablets and pencils, which, if you buy a quantity of, you can get at a reduction. These things will sell readily, as the children will buy from you when they cannot get to town. This is a way of making money in the country. Florence Haley, Illinois.

There are two features of Farm and Fireside in which we take special pride: You can look through every advertisement, large or small, in the paper, and you will not find any of the fake medical, mining, financial or other misleading advertising so common in some papers. Then you can look through every line of reading matter in the paper, and you will not find any "reading notices" or "blind" advertising. When you start to read an article in Farm and Fireside you may be sure it is going to be a real article, and will not turn out in the last few lines to be somebody's advertisement slipped into the reading matter to fool you into reading it. All our advertisements are clean and reliable, and you will find them where they belong—in the advertising columns. We show our faith in them by guaranteeing their reliability, and our readers show their faith in them by trading with the advertisers.

PIANO Do You Want Greatest Value?
The largest retail piano business in the world has been built up by us in the past 45 years. Let us send you free information and prices of twenty leading makes. Also new plan of easy payments. Pianos shipped everywhere. We give absolute guarantee of highest musical qualities. All prices wonderfully reasonable. *Special Bargains:* 12 second-hand Steinway Uprights, 3 Webers, 2 Lyon & Healys, 6 Washburns, rebuilt in our factory equal to new, at very low prices. Teachers and students would appreciate these instruments. *Write today.*
FROM
LYON & HEALY
34 Adams Street, CHICAGO



30¢ A GALLON FOR READY MIXED PAINT
Have you heard of our latest and greatest offers in Ready Mixed House, Barn and other Paints?
Comparatively speaking, we have reduced the cost of painting to next to nothing, and made it so easy that a boy can do the work. If you don't know all about our great paint offer, then look in one of our Big Catalogues for the Paint Department. If you haven't the Big Book, borrow your neighbor's, otherwise, on a postal card addressed to us simply say, "Mail me your great free PAINT OFFERS AND FREE PAINT BOOKS." Address,
SEARS, ROEBUCK & CO., CHICAGO, ILL.

CREDIT GIVEN TO EVERYBODY
CATALOG FREE Simply for the asking. America's great Housefurnishing Establishment ships goods everywhere and will send, FREE, the official catalog, which includes Furniture, Stoves, Carpets, Rugs, Sewing and Washing Machines, Talking Machines, Baby Carriages, Refrigerators, Crockery, Silverware, Office Desks, etc.



Send Us $1.00 Cash and we will ship this massive Rocker, golden oak or mahogany finish; front of seat is ruffled and serpentine shaped, upholstered with Boston leather. Satisfaction Guaranteed or Money Refunded. Order Chair No. 1126. Price only - $5.95
PAY $1.00 CASH; 50c. MONTHLY
STRAUS & SCHRAM, 1036 35th Street, CHICAGO

Cut out Drudgery and the corn broom

Install a Bissell

The Use of the Corn Broom

Means—Clouds of Dust,
Back-Breaking Effort,
Poorly Cleansed Carpets and Rugs,
Loss of Time,
Sore Hands,
Injury to Draperies and Furniture.

The Use of a Bissell "Cyco" Bearing Sweeper

Means—Saving of Time,
Saving of Carpets and Rugs,
Saving of Labor,
Saving of Health,
The Dust all Confined, and
Better Sanitation Insured.

For sale by all the best trade; prices $2.50 to $6.50. Makes a choice wedding or holiday gift.

Buy a Bissell "Cyco" Bearing Sweeper now of your dealer, send us the purchase slip *within one week from date of purchase*, and we will send you FREE a neat, useful present. Address, Dept. 77.

Bissell Carpet Sweeper Co.
Grand Rapids, Mich.
(Largest and only exclusive carpet sweeper makers in the world.)

1 to 3

Saving a cent on a paper of pins and buying three papers, is poor economy; when *one* paper of

STEWART'S
DUPLEX
SAFETY PINS

will outlast three of any other kind. They are the best because the stiffer wire doesn't bend, and they stay fastened. The sharp points and the guarded spring prevent tearing the cloth. Fasten from either side, but can't slip through. The only pin that guarantees safety and comfort.

If your dealer does not keep them, send us his name and address with four cents in stamps for samples, retailing for twice the money. Examine them carefully, and you'll always ask for Stewart's Duplex Safety Pins. See that all cards bear the name of

CONSOLIDATED SAFETY PIN CO.
169 Farrand St. Bloomfield, N. J.

Boys Play Ball

An Elegant Baseball Outfit like this for Every Boy Who Writes Us at Once.



Boys, this outfit is a dandy—seven pieces in all: A Western League Ball; Catcher's Mitt, made from good yellow oil tan leather, well padded; the mask is firmly braced, well padded chin and forehead protection; cap any color, college style; fielder's mitt, fine quality oil tan leather, heavily padded palm; the belt is 2½ inches wide with double strap nickel-plated buckle; the bat is made from the very finest quality second growth coarse grain ash and is 33 inches long. Every piece of this outfit is made from the best material. Every boy can secure this outfit without cost. Send us your name and address before they are all gone. **Do it now.** Address

SUCCESSFUL FARMING, Box 66, Des Moines, Ia.

WANTED

A man or woman, boy or girl in every town to act as official representative of Farm and Fireside. Steady employment, and no experience necessary. The most liberal merchandise rewards, and large cash prizes every month. Spare time may be profitably utilized. Territory unlimited. If interested write for our big, free catalogue, to

MERCHANDISE PAYMENT DEPARTMENT
Farm and Fireside Springfield, Ohio

When writing to advertisers, tell them you saw it in "Farm & Fireside"

Miss Gould's Fashion Page



The Celluloid Tie Holder With Bow Adjusted

Do you want to have a new neck bow to wear with every shirt waist you own? If you do, you can have one with very little expense with the aid of the new celluloid tie holder, which costs but nine cents. It is made of two pieces, and to the back of one a fastener is attached, which, when adjusted, is caught to your collar stud. The other piece of the celluloid fastener is made so that different ribbons may be tied through it. But little ribbon is required, the bow being just large enough to entirely cover the fastener. With this sort of a fastener a different bow may be used as often as one wishes, and they need not, necessarily, be always of ribbon. Embroidered lawn, net with lace edges or striped linen may be used. These celluloid tie holders tuck under the collar in just the same way that the usual ready-made bow does—the bow which is mounted on a little celluloid foundation and has the fastener to attach to the collar stud.

Have you a last year's white linen suit which requires only a few new little touches to make it suitable for this summer? If so, introduce a bit of color by using colored cretonne or linen for the trimming. Perhaps you will need to make only a new set of cuffs. and possibly an adjustable shawl collar.

Then, again, you could introduce a renovating touch in your suit by changing the buttons. If your linen suit happened to have pearl buttons last season, rip them off, buy some button molds and cover them with cretonne.

If the jacket happened to be short and loose last season, and has grown tight at the hips, there is a remedy for it. Open up the seams and slash the coat, back and front, about six inches; then finish the lower edge of the coat with an inch-wide band of colored linen, and run the bands up along the edges of the slashes to finish them. If the coat had a turn-down collar and mannish revers last year, cut them off, and finish the front and the neck edges with bands similar to those used on the bottom of the coat.

Miss Gould will be glad to tell any reader of Farm and Fireside where the celluloid tie holder illustrated on this page may be purchased. Please send a stamped and self-addressed envelope for reply.

The patterns illustrated on this page may be obtained from the Pattern Department, Farm and Fireside, 11 East 24th Street, New York City. The price of each pattern is ten cents, with the exception of the Baby's Outfit, which includes seventeen patterns, and costs thirty cents.



No. 1127—One-Button Cutaway Coat
Pattern cut for 34, 36, 38 and 40 inch bust measures. Quantity of material required for medium size, or 36 inch bust, three yards of thirty-six-inch material, or two and one fourth yards of forty-four-inch material, with five eighths of a yard of velvet for trimming.

No. 1128—Skirt With Inverted Plaits at the Side
Pattern cut for 24, 26, 28 and 30 inch waist measures. Length of skirt all around, 40 inches. Quantity of material required for medium size, or 26 inch waist, six and one fourth yards of thirty-six-inch material, or four and one fourth yards of forty-four-inch material.

For the fashionable spring tailor-made suit the gored skirt will take the place of the plaited one. These skirts fit the figure as if a part of it, and the habit back is used. The other big novelty which the new skirts show is the return of the old-fashioned overskirt. To be sure, it is in a disguised form, yet it is easy to recognize. The tunic skirt, as it is now called, is made in various ways. Sometimes there is just a single side drapery to indicate it; then again the drapery shows at both sides, and is often of a different fabric from the skirt proper. The tunic effect which is merely simulated by trimming is also the height of fashion. Bands of braid are used to give the over-drapery effect, circular flounces, and also tucks, stitched bands and narrow folds of satin.



How the Celluloid Tie Holder Looks Without the Bow

Don't brush aside with an air of superiority and scorn the tunic skirt. You will be sorry for it later in the season if you do, for in the summer fashions the skirt with the tunic drapery will occupy a prominent place.

Costume Nos. 1090-1091 illustrated on this page carries out in its graceful skirt a suggestion of the sheath effect of the Paquin skirt, in that its under skirt is gored and carefully fitted to the figure. It also shows the new tunic drapery.

The charming double sleeve is the feature of the waist. As long ago as last August, at the openings of the big dressmakers in Paris, the tunic skirt was shown. Paquin then displayed his tight-fitting, scanty skirt, and the Callot Soeurs showed many models with tunic draperies.



No. 1090—Waist With Double Sleeves
Sizes 34, 36, 38 and 40 inch bust measures.

No. 1091—Sheath Skirt With Tunic Drapery
Sizes 24, 26, 28 and 30 inch waist measures.



No. 831—Baby's Outfit (Including 17 Patterns). Price 30 cents. Patterns cut in one size

Copyright, 1908, by The Crowell Publishing Company

Useful Patterns for the Home Dressmaker

MADISON SQUARE PATTERNS

The new catalogue of Madison Square Patterns is now ready. It is like a big illustrated fashion magazine, and is well worth having. We will send it upon receipt of four cents in stamps. Order patterns and catalogue from the Pattern Department, Farm and Fireside, 11 East 24th Street, New York City.

Full descriptions and directions are sent with the pattern as to the number of yards of material required, the number and the names of the different pieces in the pattern, how to cut and fit and put the garment together, and also a picture of the garment as a model to go by.

ALL PATTERNS ARE 10 CENTS EACH

When ordering be sure to comply with the following directions: For ladies' waists, give bust measure in inches; for skirt pattern, give waist measure in inches; for misses and children, give age. To get bust and breast measures, put a tape measure all the way around the body, over the dress, close under the arms. Order patterns by their numbers. Satisfaction guaranteed or money refunded.

OUR LATEST LIBERAL OFFER

We will give any two of these patterns for sending two yearly subscriptions to Farm and Fireside at the regular price of 25 cents each. Your own subscription may be one of the two. When ordering, write your name and address distinctly. We will send Farm and Fireside one year, new or renewal, and any one pattern for only 30 cents.



No. 633—Corset Cover Closed at Back
Sizes 32, 34, 36 and 38 inch bust measures.

No. 634—Gored Petticoat With Adjustable Flounce
Sizes 22, 24, 26 and 28 inch waist measures.



No. 881—Yoke Waist With Side Trimming
Sizes 34, 36, 38 and 40 inch bust measures.

No. 882—Three-Piece Skirt With Flounce
Sizes 24, 26, 28 and 30 inch waist measures.



No. 885—Misses' Plaited Shirt Waist With Pockets
Sizes 12, 14 and 16 years.





No. 1141

No. 1141—Kimono Dressing Sacque
Pattern cut for 32, 36 and 40 inch bust measures—small, medium and large. Quantity of material required for medium size, or 36 inch bust, five yards of twenty-two-inch material, or three and one half yards of thirty-six-inch material, with five yards of banding.



No. 881
No. 882



No. 700—Closed Drawers With Yoke
Sizes 22, 24 and 26 inch waist measures.



No. 667—Flannel Bunny
One size only.



No. 1045—Shirt Waist in Broad-Shouldered Effect
Sizes 32, 34, 36 and 38 inch bust measures.

No. 1046—Plaited Skirt With Tucked Panels
Sizes 22, 24, 26 and 28 inch waist measures.





No. 886—Tucked Tailored Shirt Waist
Sizes 32, 34, 36 and 38 inch bust measures.



No. 552—House Gown
Sizes 32, 34, 36 and 38 inch bust measures.

No. 1098—Surplice Overblouse With Guimpe
Pattern cut for 32, 34, 36 and 38 inch bust measures. Quantity of material required for medium size, or 36 inch bust, one and three fourths yards of thirty-six-inch material, or one and one eighth yards of fifty-four-inch material, with three yards of lace for the guimpe.

No. 977—Box-Plaited Skirt With Side Yoke
Pattern cut for 24, 26, 28 and 30 inch waist measures. Length of skirt, 39 inches all around. Quantity of material required for medium size, or 26 inch waist, ten and one half yards of thirty-six-inch material, or five and seven eighths yards of fifty-four-inch material.

Copyright, 1908, by The Crowell Publishing Company

The Telltale Morning Glories

BY HILDA RICHMOND

"Let's go down to the brook a little while," said Richard. "We might as well have a good time."

"I don't know whether mama would want me to go," said Horace, who was smaller than the other boys.

"Baby!" said Richard. "How is she going to find out? Didn't Miss Staley dismiss an hour early, so she could go home to see her sick mother? Your mother won't be looking for you for a long time."

Horace always liked to be with the older boys, so he trotted along, but something made him feel that he was doing a naughty thing. He always told his mother everything, and they were such chums, but if he went to the brook he would have to keep it a secret, for he knew she did not like to have him playing in the water with his neat school clothes on. When he put on his play suit she liked to have him enjoy his play time, but if he went all the way home for that, and to ask permission, the others would not wait.

"Look at that fish!" cried Ned, splashing the water with a willow switch. "I came near killing him that time."

"Don't scare him," said Richard, "and I'll fix up a net. Who has a handkerchief?"

Horace looked in his pocket for a handkerchief, and so did the other boys, but Richard found one first, and soon had his net ready. Horace tucked his soiled little handkerchief back into his pocket, and in doing so poked his finger through the little paper bag filled with morning-glory seeds Mrs. Lossing had given him to take home to his mother. Horace tucked the handkerchief well around the bag, but the hole tore larger and larger as he ran and played with the other boys.

"Here are some seeds Mrs. Lossing sent you, mama," said Horace when he reached home. His clothes were soiled with mud and his feet were wet, but his mother said nothing about where he had been. "I'm sorry, but the sack got torn and some got lost out."

"I think there will be enough left," said his mother. "Morning glories cover a great deal of space."

One day several months later Horace went with his mother and father for a walk by the brook. It was a bright, sunny afternoon, and they had a nice little lunch in a basket to eat when they were tired of fishing, but Horace was not very happy. He could not help thinking of the time when he went to the brook without asking permission, but he said nothing about it as they walked along together.

"Look there!" said his father, all at once pointing to a morning-glory vine climbing boldly up an old weed. "There is a flower like the ones you have at the back porch, isn't it?"

The weed was in the shade, so the pretty blue flower was still wide open. "Why, it is a morning glory!" said his mother. "And look! There are many others all around here!"

"I'm sorry they told on me—that is, I'm sorry I didn't tell first," sobbed Horace, and then he told how he had kept the secret all this time. Of course his father and mother forgave him, and he promised not to disobey again.

Every year the pretty, dainty flowers grow by the brook, and Horace says they always remind him that he must keep his promise.

◈

A Fighting Rooster

BY MASON DAUGHERTY, AGE FOURTEEN

My father once sent off for five Plymouth Rock chickens, and among them was a very, *very* large rooster. He had spurs about two inches long. He weighed nine pounds, and strutted around as if he were a king. We always called him The Fighting Rooster, because he got so brave that he would fight any one. He could knock over my cousin, who was eight years old, and he would fly up against him and dig his spurs in him. My father used to whip him, and duck him in the water tank, but still he would fight. Finally my mother traded him to one of our neighbors, but he got worse than ever, and he ended his days by getting his head cut off.

◈

History of Kaskaskia

BY NOI L. CASEY, AGE FIFTEEN

Kaskaskia, probably the first permanent settlement in Illinois, was settled by the French Jesuits about the year 1695. A beautiful valley about six miles in width is formed by the confluence of the Kaskaskia and Mississippi rivers. Between these two streams, but six miles above their junction, a site was chosen for the village. Row upon row of Indian lodges soon covered the plain. A log chapel and a house for the Jesuit Fathers was built above the village and enclosed with a neat stockade.

The early French immigrants were attracted from Canada by the report of mild climate and fertile soil. A number came to the Illinois country, and Kaskaskia soon became the metropolis of northern Louisiana. The houses were very quaint in appearance and peculiar in construction. The walls were formed by planting deep in the ground a framework of posts. The carefully trimmed walls were given many coats of whitewash within and without. The roof of thatch was quite steep and often projected over the broad porch which extended around the entire building. The dwellings, of uniform size and appearance, gave to the village an air of peace.

The dress of these people was simple and quaint. Coarse blue shirts were worn by the men. Upon hunting expeditions and in winter coonskin caps and pantaloons of deerskin were worn. The women's dresses were made of blue Spanish cloth, with short waist and full skirts. A blue handkerchief was a common head covering for both sexes.

The cultivated lands were held by the village in common, and portions dealt out to the heads of the families in proportion to their numbers.

Their homely tasks were interspersed with amusements, festivals and holidays. Middle-aged and young alike enjoyed dancing, while the old men and priests looked on with beaming eyes.

Kaskaskia rapidly increased in numbers, and in 1725 became an incorporated town, with special privileges from King Louis XV.

By the treaty of peace made in 1763, closing the French and Indian War, France ceded all of her territory east of the Mississippi River to England. French soldiers and even Indian warriors wept when the lilies of France were hauled down from above the walls and the hated cross of Saint George was flaunted to the breeze.

A large number of French inhabitants, unwilling to dwell in a country ruled by a different race, withdrew to the settlements of Sainte Genevieve and Saint Louis.

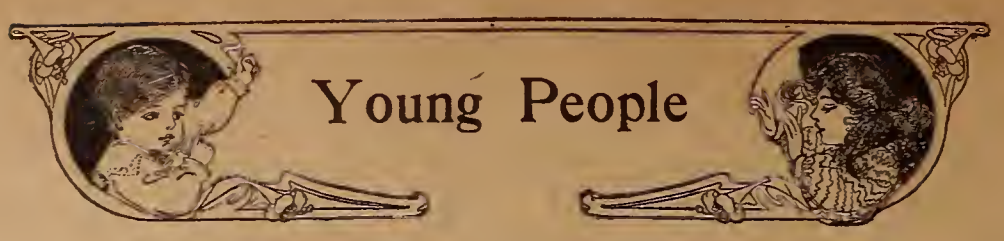
On July 4, 1778, Colonel George Rogers Clark, with one hundred and fifty men, captured Kaskaskia for the cause of the Colonists. When the attack was made the officers of the fort were giving a ball for the young men and maidens of the village. Clark, posting his men near the entrance, marched in, and stood with folded arms, an interested spectator. An Indian recognized Clark, and sprang to his feet and gave a terrible war whoop. At a signal his men marched in and captured all the officers and men.

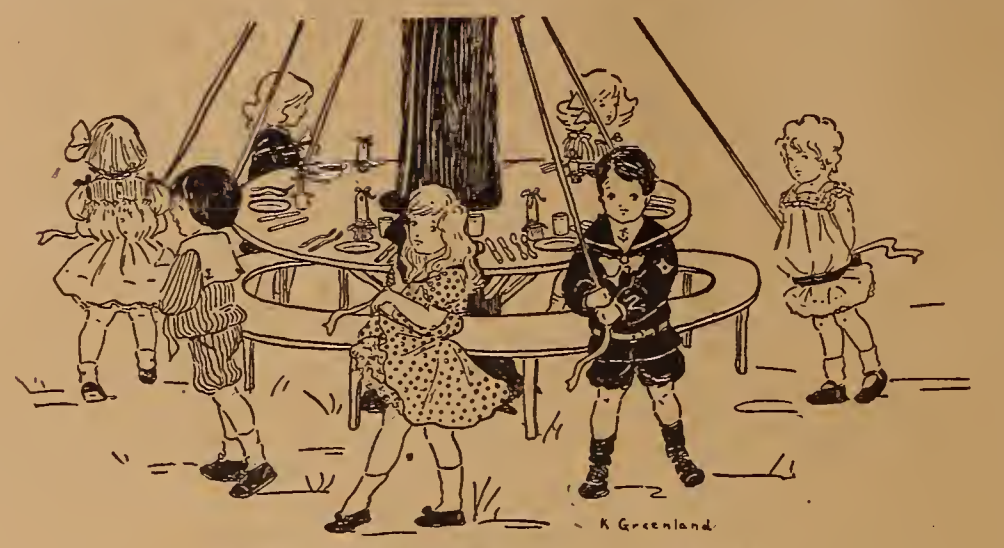
In 1809 the territory of Illinois was separated from Indiana, and Kaskaskia, the most important commercial center of the region, was chosen as the seat of government.

The territorial legislature held its sessions in a large, rough building of uncut limestone located in the center of the square. In 1820 this honor was taken away from Kaskaskia by Vandalia.

Owing to the overflows of the Mississippi River, Kaskaskia is at present only a hamlet.

Young People





A MAY-POLE PARTY FOR THE LITTLE FOLKS

◈

May-Day Fun

BY L. H. L.

When children's amusements cover so wide a field it is difficult to select the particular frolic for our May outing. Of course, if it is in early summer and the weather propitious, there is nothing more enticing than an afternoon in the woods; but then all the joyful accessories must be taken in baskets along with the picnic provender. If the place selected could be some one's lawn or garden, or even the big back yard of some progress-forgotten home, it would be quite easy.

The prettiest thing is a May pole and supper table all in one if the party is small; more than ten are apt to become hopelessly mixed in twining the ribbons. A round table built around a tree, the ribbons fastened directly under the beginning of the first limb, and Japanese lanterns attached to the tips of every bough, could be easily managed by a little ingenuity, a carpenter and a few boards. The table could be covered with white crêpe paper, and set with simple dishes. Of course, there should be a ribbon for each child, and the table should be profusely decorated with apple or hawthorn blossoms. The ribbons should hang over the edge of the table. At the end of each ribbon should be pinned a number corresponding to the number on each plate. When they have circled the table twice each one should stop at his own number.

The cobweb scheme is an excellent before-supper pastime, affording plenty of exercise and hilarity. The expenditure of a small amount of money upon two or three balls of pink twine and as many unpretentious gifts as you have guests will bring good returns, if delight is a fair exchange for coin. The twine should be cut into as many lengths as there are children, and to one end of each fasten the gift, all done up in paper, and take it to some remote place and hide it. Always hide two or three near together, so the joy of finding may be shared with some one; then twist and twine the strings all over the place, having the other end in a common center. These ends should be tied to a bit of stick, a spool or a peanut, so the children can wind them into balls until the prize end is reached. At a given signal they should all start at once, and the one who finds the end first should receive some extra attention—for instance, the leading of the May-pole dance.



Photo by Will G. Helwig

A DRINK FROM THE SPRING

◈

Scrap Books

BY BERNICE C. MILLER, AGE TEN

I take pleasure in making scrap books. I had two Sunday-school books that were old and I did not use. So I cut out the pictures, Bible readings and texts. I put the Bible readings and texts in another book, which I called my Scrap Book of Readings.

My aunt has saved pictures for me. They are pictures from the Bible and other books. The Bible pictures I take great interest in.

My mother went away for two days, and my aunt and I run the house. After we got our work done in the morning we would sit down and make scrap books.

My aunt had an account book that she has had for two years. I would tell her what to put on each page, and she would paste them on. I have that book full, and we are making another.

◈

The Troublesome Coon

BY ROY L. FOLEY, AGE EIGHT

I live in the Valley of Virginia, between the Blue Ridge and the Appalachian Mountains. This valley is about twenty-five miles wide and one hundred and twenty-five miles long. I live near a piece of woods that is being rapidly cleared. Wild animals, in passing from one mountain to the other, are sometimes seen and killed in these woods.

Last summer my little brother saw two small coons near our home. He thought they were bears, and was afraid of them. We afterward caught one of them for a pet. He was very wild for a day or two, but soon began to eat with the cat, acting the pig and trying to crowd kitty away. He became very fond of us and we taught him many tricks. He was into everything and became such a nuisance that we sold him.

◈

Answers to Puzzles in the April 10th Issue

Charade—Metaphysician—met-a-physician.

Riddles—62. An egg. 63. On the head. 64. Because it shrinks from washing. 65. 8 P. M. (ate postmaster). 66. Because it holds a gallon. 67. Grandma knitting. 68. A perch. 69. Dew and sunshine. 70. The one who has the largest head. 71. Because his is all net profit. 72. A-gate. 73. Coal. 74. A pillow. 75. Courtship. 76. Because he is holy. 77. Because it is out of the head. 78. Electric currants (currents). 79. A walnut. 80. The sooner it is out, the better. 81. The letter L. 82. There was a gray-headed woman peeped out of a white house, and saw a white cow in a white cotton patch, and called a white dog to chase her out. 83. Blackberry. 84. Teakettle. 85. Two T's in that. 86. Because he can't chew it. 87. A thimble. 88. Chimney. 89. Because they were all married. 90. A churn. 91. Wheelbarrow. 92. Because it will be long enough before he gets another. 93. In your pocket. to be sure. 94. Make the trousers and waistcoat first. 95. When he slept with his forefathers. 96. Too wise you are, too wise you be, I see you are too wise for me. 97. Because they hold the rains. 98. B natural. 99. Stop a minute.

Buffeted by Fate

[CONTINUED FROM PAGE 15]

I told him Mr. Jack was at home; but I think he rather disliked him, and he said he would not disturb him. So I said nothing to Mr. Jack, he not having heard Mr. Thompson enter. As I was passing the den door Mr. Jack called, saying, "Well, Frank, they have left us all alone, have they? Come on in and be sociable, dear." I waited—it seemed hours—then said, "Mr. Richardson, had I a brother, you would answer to him for this insult." He said, "But each time I have come in the worst for dissipation, you have been sitting up waiting for me. You have helped me in. Why? Because you like me and wish attention from me. I know your kind." I despised him now, so answered, "I have helped you rather than have you disgrace the dearest mother in the world by being found in the street. You have hinted at my kind, thinking, no doubt, I am as low as some of the companions you associate with. I am, it is true, a working girl, but until a year ago I lived in and owned as beautiful a home as yours, my family ranked in the so-called society world as high as yours, but through misfortune I have lost all. I likewise lost all my loved ones, but not my pride or good name. I am glad in many ways I have had this last six-months experience, as I have learned people. I have seen the sons and daughters of the rich in their true light. I have seen the dearest of mothers ignored and ill treated by those for whom she has spent her life. I have learned society. Oh, what a farce and a sham. I am sorry to have had to tell you my history, as I wished no one in New York to know me. Your insult brought it forth. I shall leave here to-night."

I turned to go. He jumped to grab me, using an oath, and saying, "You are too pretty a prize to lose!" but a voice said, "Stop where you are, Jack!" It was Mr. Thompson, whom I had forgotten was in the house. I excused myself, and would have fled to my room, but Mr. Thompson stopped me, saying, "Miss Frances, don't leave here yet. The mother in this home needs you." So I promised I would remain.

For a month after this all was just as before, the same life day after day. One day Mrs. Richardson said, "Frances, I have a friend who has taken a house out of town and has invited me to visit them. Would you like to accompany me?" Oh, joy! to be away from there. I had not seen as much of Mr. Thompson since that horrible night, and I feared the Count had supplanted him in Miss Alice's affections. I did not care to see him anyway, after what he had witnessed.

I answered, "Yes, gladly," to Mrs. Richardson's question. We rode all night on the sleeper, and it took me back to the last time I spent a sleepless night on one—the night I left my girlhood home in Blank. When we reached our journey's end next morning, I gave a cry, and said I could not go, and would they please let me return home. It was my home city, where I had been the wealthiest girl and belle for so many years, and now to go back as a maid! Mrs. Richardson acted strangely, and hurried me away to the carriage which had been sent for us. We drove directly to my old home.

I knew I never could enter that house, of all others. I groaned aloud and almost fainted at the thought of it. I asked if she knew Mr. Thomas, my lawyer, and she said "No." She hurried me in here, also. Everything was the same. Nobody was in sight, so I threw place and position aside, and throwing myself on the old stairs, burst into tears. How long I remained so I do not know; but after some time a voice at my side said, "You will make yourself ill." A kind voice and a man's. I raised my eyes, expecting to see Mr. Thomas, but met the eyes of Mr. Thompson. "I beg your pardon, but this was a little more than I could endure," I said. He lifted me to a davenport, and said, "Miss Curtis, perhaps it was cruel to do just as we did. I had to bring you away from that house. I have loved you a long time; that is why I came every day—to be near you. The night Alice struck you I longed to take you then in my arms and carry you where you would not be subjected to such insults, for although in humble position, I knew you were above your place. After Jack insulted you I went to Mrs. Richardson and told her all, also of Jack's insult. We went together to the matron of the refuge you first sought, and learned all she knew, but not your name. I sent a friend to your city to find out everything. He learned how Mr. Thomas was living, and how he almost put you from your home. We have had an expert examining those notes, and find them to be forgeries. So you are no longer Frances out at service, but Miss Curtis back to 'her own.' The home is yours again, also your jewels are in their cases in your room—that is, all those I could trace. The old servants will return to you as soon as they can leave their present employers. Mrs. Richardson, for past kindness, has placed in your stables a splendid pair of horses and several carriages. We have had a lovely time planning all this for you, who deserve all that love and wealth can do for you."

I cannot remember all that I said. I was speechless, too happy and overcome to express my feelings. I saw coming toward me the dear, sweet woman I had learned to love and respect so much. Her face was beaming with joy. "Miss Curtis—no, it shall always be Frances—you have been more than a daughter to me. I hope we can still keep up the friendship, which has ended so happily."

I then tried to tell her how she had made a different girl of me; her sweet influence had inspired a better life—one of usefulness. Now that I have my wealth and position back, I can realize a little the happiness of doing "unto others as you would that they should do unto you." At the end of a month Mr. Thompson joined his fortune with mine, and our happiest moments are spent with our friend, Mrs. Richardson, and working for "Sweet Charity's" sake.

◈

An Emergency

The old man had "billy-goat" whiskers and he wore a brown hickory shirt with white agate buttons, but his heart was in the right place.

It was in a city store—not one of the swell stores, but a place where they kept all sorts of toys and sold them cheap.

An old Irish woman in a shawl and hood had just come in, and she stood fumbling with bare, trembling hands at the wrappings of the parcel which she carried. At last she undid the knots in the string and took from the paper a little red wagon with one wheel off.

Stepping up to the dapper floor walker, she said timidly, "'Tis a gift fur Jamie, sir, all Oi can git 'im; an' it bees broke! The wheel bees clane aff it. Oi don't want to be puttin' the blame onto no wan—but it must 'a' be'n done afore Oi tuk it, fur Oi held it so tinder loike thet it c'u'dn't 'a' broke."

"Can't be helped; we are not responsible for breakage after customers have received goods. Couldn't have been done here—the saleslady would have noticed it."

There was a disappointed look on the woman's face, and her lip quivered as she began to tie up the parcel.

The old man in the hickory shirt stepped forward. "Hyur, lemme see it. Um-m, nut's off'n the wheel. Young man, you kin fetch me a nut to fit that thar axle."

"But we—this is not a repair shop."

"I say you fetch me a nut. You kin take one off'n one o' them other carts—an' you be quick about it."

"But we don't—" Here one of the shop girls came up and whispered, "Better get it. That old man just bought sixty dollars' worth of goods." Then the dapper fellow went away, and soon returned with the required bit of iron.

The old man coolly took his huge complicated jack knife and opened out a small monkey wrench, with which he fixed the wheel; then he wrapped up the parcel and handed it to the old woman.

She took it with trembling hands. "Oi'm obloiged to ye, sir," said she, and hugging the bulky bundle to her breast, she went out into the street and disappeared among the eager, rushing, jostling crowd of shoppers.—Short Stories.

◈

An Incident of Early Days

BY ESTHER O'BRIAN, AGE ELEVEN

About the year 1850 game was very plentiful in Clinton County, New York. In those days people had no stables for their cattle even in the winter, but kept them in open sheds with only three sides. Deer would sometimes come and help themselves to the cows' hay. One winter morning at dawn, my grandfather, then a young man, on going to the cattle shed, found a deer feeding with the cattle. He went back to the house, summoned his father and brothers, and armed himself with an ax. There was deep snow on the ground at that time, and a crust thick enough to bear the weight of the men, although the small, sharp hoofs of the deer broke through it. So it was easy to come up to the deer, a fine buck, and kill it. In the little clearing where the deer was killed is an apple orchard, and it is in the center of a thriving farming community, with telephone and rural free mail delivery.



Congo on Barn at Lincoln, N.H.

CONGO NEVER LEAK ROOFING

When looking for a roof one naturally wants something that is durable and that will stand the test of time.

Congo Roofing has stood this test, and has proven its worth as a protection against all kinds of climate and weather.

Many buildings the country over are covered with Congo, which have already given many years of service, and are good for many years more.

Heat and cold, rain and snow, have no appreciable effect upon Congo. Even fire itself is stubbornly resisted by these roofs.

Not the least attractive feature of Congo is the price. It is the cheapest of the high-grade rubber roofings.

Send for Booklet and Free Sample, and you'll surely buy no other kind.

UNITED ROOFING & MFG. CO.

Successors to Buchanan Foster Co.

553 West End Trust Bldg., Philadelphia, Pa. Chicago & San Francisco

You Buy SATISFACTION when You Purchase a Studebaker



It has a reputation behind it—the reputation of the largest vehicle factory in the world which for over 60 years has put the best materials and skill into every farm wagon or buggy it has turned out. When you buy a Studebaker farm wagon you know you are buying the very best wagon that it is possible for human hands to make.

Examine a Studebaker wagon and you will see that it excels in strength, durability, correct proportions, perfect construction—a better and lighter draft wagon cannot be made.

SEE THE STUDEBAKER AGENT

Why not get a wagon that will last a lifetime? A Studebaker wagon will.

Studebaker Bros. Mfg. Co., South Bend, Ind.

If you will mention this paper and send us two cents in postage, we will mail you "Studebaker" 1908 Farmer's Almanac—Free.

If you are going to build a house, repair or improve your old one, send for our large Catalogue of **Building Material**

In buying your materials from different local dealers a large profit is paid on each line of goods bought. By the time the house is finished, the cost is much greater than anticipated. Isn't that usually the case?

You need not pay more than the right prices and yet put into your house materials of dependable quality—Ward quality—if you buy all of your materials of one concern and of one department, **Montgomery Ward & Co.'s Building Material Division.** You pay but one small profit on the whole lot, instead of a good profit to each dealer on the many lines. You might as well buy at the prices your dealers pay as to let them buy for you and each one get a good profit for so doing.

Consider these advantages in buying **Mill Work, Builders' Hardware, Roofing, Metal Ceilings, Paints, Oils, Varnishes, Heating Goods, Plumbing Goods, Electric Supplies, Lighting Fixtures, Mantels, Grates, etc.**

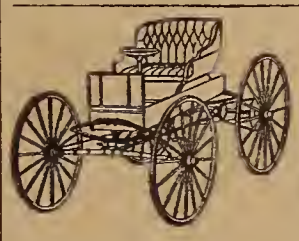
Our **Building Material Catalogue** contains 112 pages, is fully illustrated and is a book every farmer, planter, ranchman, house owner and contractor and builder should have. No other book shows such large variety of so many lines for the user to buy from.

Our terms are liberal. We know by helping you to save money on your building we will make a steady customer of you.

Save extra profits, unnecessary annoyances and delays.

Get this book. Send for it right now. It will mean dollars saved and a better home, or building, for you. Write 60

Montgomery Ward & Co., Michigan Ave., Madison and Washington Streets CHICAGO



A MOTOR BUGGY FOR YOU

10 Horse Power. PRICE $450

A handsome, practicable, economical, rubber-tire motor buggy. Meets the requirements of the farmer, business man, physician, banker, lawyer, etc.; most economical vehicle made; speed, 20 miles per hour; suitable for country or city; goes anywhere—rough roads no obstacle; a great hill climber; always ready; requires no experience to operate. Absolutely reliable. Full particulars on request. Immediate shipment. Write at once. Address

ECONOMY MOTOR BUGGY CO., DEPT. Y, FT. WAYNE, IND.

Reliable Agents Wanted Everywhere

WANTED

A man or woman, boy or girl in every town to act as official representative of Farm and Fireside. Steady employment, and no experience necessary. The most liberal merchandise rewards, and large cash prizes every month. Spare time may be profitably utilized. Territory unlimited. If interested write for our big, free catalogue, to

Merchandise Payment Department

FARM AND FIRESIDE, SPRINGFIELD, OHIO

Your Home Furnished Without Cost

No matter what you want for your home, you can get it without paying a cent by acting as representative for Farm and Fireside and looking after our interests.

Among the things we are offering for comparatively few subscriptions to Farm and Fireside are beautiful sets of silverware and silver articles, toilet articles, sets of dishes, real Swiss lace curtains, portieres, rugs, kitchen utensils, carpet sweepers, superb table linen, glassware, handsome gold and silver watches, fine jewelry, and many other articles just as attractive.

Send to-day for our large catalogue containing illustrations of all these articles and hundreds of others. We will send it to you without cost, and with full particulars concerning our proposition. Address

MERCHANDISE PAYMENT DEPARTMENT

FARM AND FIRESIDE SPRINGFIELD, OHIO



O. L. Chase St. Louis, Mo.

I Am the Paint Man

2 Full Gallons Free to Try—3 Months Time to Pay

You Pay No Freight to Try My Paint

I Have a new way of manufacturing and selling house paint that's unique—that's better.

Before my plan Paint was sold in two ways—either ready-made—or mixed by a local painter.

Both these ways are at fault.

Ready-Made Paint settles hard in cans—and mineral pigments and chemical acting driers in ready-made paint eat the life out of Linseed Oil—which is the LIFE of all paint.

Painter-Made Paint can never be properly made by a painter—because of lack of heavy mixing and grinding machinery.

My Paint is ready to use—but not ready-made. My Paint is made to order—after the order is received—packed in hermetically sealed cans—(extra size to insure a full gallon) and dated the day the Paint is made.

Pure Linseed Oil and pure, fresh paint ingredients are used in my Paint. Such materials, found at local stores, are usually adulterated.

I sell my Paint direct from factory to user—at very low factory prices.

I pay freight on six-gallon orders or over.

When the order of six gallons or over is received, use two full gallons to test it—and if you are not perfectly satisfied, in every particular, return the balance of the order to me—and the two gallons you have used shan't cost you a penny.

No other paintmaker offers such a liberal proposition. My Paint is sold to responsible people on three months' time, if desired. I make three brands of Paint to suit the requirements of my immense trade.

My strictly Pure All White Lead Paint is absolutely the best paint in the world. My 40-60 Brand Zinc and Lead Paint is the best paint in its class on the market. My Durability Paint has an immense sale everywhere, and is sold under five-year iron-clad guarantee. The Purity of my Paint is guaranteed under a forfeit of $100.00 in gold.

Send for my beautiful Paint Book and big Color Cards to select from—best Book—largest Cards ever published. They are FREE. With the Paint Book I send Free Book of all kinds of Painters' Supplies, sold at Direct-to-you Prices. Write TODAY. My Plan insures you Satisfaction and lowest prices on Paint.

O. L. CHASE, THE PAINTMAN, DEPT. 19, ST. LOUIS, MISSOURI

500 PICTURES OF ROOSEVELT

Given to You if You Send in One Subscription to Farm and Fireside



Copyright, 1908, by Underwood & Underwood. All rights reserved.

This is only the center section (one third) of the photograph you will get

Rush This Coupon at Once

FARM AND FIRESIDE, Springfield, Ohio.
Gentlemen:—Enclosed please find **25 cents**, for which send me FARM AND FIRESIDE one year, the 500 pictures of Roosevelt, the Roosevelt Puzzle and "Memories," the painting to appear in FARM AND FIRESIDE in one of the May numbers.

Name .....

Address .....

.....

Date..... .....
Apr. 25 F & F

The 500 Picture=$1,000 Roosevelt Photograph

Only a small section of this great picture is reproduced above. The 500 pictures were taken in nearly every state in the Union. Just two of the entire 500 are alike, and to find them is a puzzle that will keep you guessing for days. These two are **not** in the above section, but are in the large picture that you will get, which is 13¾ x 20½ inches, reproduced on heavy supercalendered stock all ready to hang up the minute you get it, if you accept our offer.

Subscribe now, so that in addition to FARM AND FIRESIDE, the Roosevelt Picture and the Puzzle, you will get "Memories"—the most patriotic painting that has been made in years. Accept **Our Offer** for **Only 25 Cents**, and **Do It Now.**

FARM AND FIRESIDE, SPRINGFIELD, OHIO

OUR LIMITED OFFER

Farm and Fireside, 1 year, 24 big numbers.
The 500 Picture Roosevelt photograph costing $1,000, comprising
The Great Roosevelt Puzzle, and in one of our May numbers
"Memories," a picture that will touch the soul of every true American.

25c

Use the coupon opposite at once

MAKING CEMENT POSTS

Cement posts are coming into such general use, and may be so easily made, with but little equipment, that we see no reason why in a few years there will not be far more of these posts set than of any other class.

Then the cost is so nominal; a post seven and one half feet in length with a four-by-five-inch base tapered to a three-by-five-inch cap costs only from seven to twelve cents for material, according to the nearness of sand and crushed-stone material.

A mold for making fourteen posts at one setting may be made from seventeen boards five inches in width, by using one such board for each side of the mold, and placing in cross boards in such manner as to form a mold for each post five inches deep with a width of five inches at the base and three inches at the cap end. In placing these cross boards every other one will be placed in a straight line and the alternate ones tapering.

When the mold is completed, a space upon the ground can be scraped smooth with a straight edge, sufficiently large to admit of placing the mold in position. Then sprinkle the surface heavily with fine sand, to insure an even grade. Upon this surface place a covering of one thickness of heavy, tarred roofing paper, and you are ready to set up the mold.

The boards for the mold should be fitted ready to put together, but not nailed permanently. Each cross board should have three eight-inch bit holes bored into each end, of sufficient depth to admit a tenpenny nail. At the intersection where each cross board meets the side pieces



CEMENT-POST MOLD

Boards and cross boards in position, where they are held securely by nails. Can be easily taken apart to get out the posts

three tenpenny nails are driven through the side pieces and into the holes in the ends of the cross boards, thus holding them in position and allowing the mold to be easily taken down after the posts have become firmly set.

As the cross boards are placed in position, the outside of the mold is firmly held in place by driving small stakes at intervals.

Concrete mixture, consisting of one part good cement, three parts sharp sand and four parts crushed stone, mixed dry in a mortar bed until thoroughly massed to one color and moistened with sufficient water to form a good stiff mortar, is then filled into the boxes and well tamped with a broad stamper.

After filling the mortar into each mold one inch in depth we place in each side a piece of discarded barbed wire running the full length of the post, and when each mold is filled within one inch of the top two more wires are placed in similar position, bringing them thus into each corner of the post, to serve as stay supports.

When the boxes are filled, a straight edge is used to smooth off the surface and the trowel is used to complete the facing of each post. Then while the mortar is yet green we shove into each post a sufficient number of wire loops, embedding the loop end in the mortar, thus leaving two pliable ends outward, for twisting together with pliers in fastening up the fence.

The posts should be left in the molds until perfectly set, which will take from seven to ten days, when they may be removed and more made.

Geo. W. Brown.

◈

When a new advertiser wants to use Farm and Fireside, we investigate, and if his advertising is not the kind we can guarantee, we refuse it. That is why you may have full confidence in Farm and Fireside advertisers.

FERTILITY POINTERS

Sheep manure is the best and will improve land faster than any other kind.

A well-managed dairy will furnish more manure than any other branch of farming.

Better results will be had by manuring close to the surface than by plowing under too deep.

The manure spreader is one of the most valuable tools and has a place on every well-managed farm.

Top dressing meadow land is one of the best and most economical ways of utilizing the manure crop.

Straw used as bedding and as a liquid absorbent is worth double what it can be sold for in any market.

We must pay more attention to clover, grasses and applying manure, or the future millions will be poorly fed.

The man who plans to make and save the most manure is in most instances the best and most successful farmer.

All poor hay and straw should be hauled to the stable and worked into manure and returned to the field.

It is poor policy to dump all of the manure on a few acres close to the buildings and not haul any on the other land.

We must rely more on stable manure and less on commercial fertilizers if we continue to produce our crops at a profit.

Clover and other legumes will not restore old land unless supplemented by manure and other more expensive fertilizing elements.

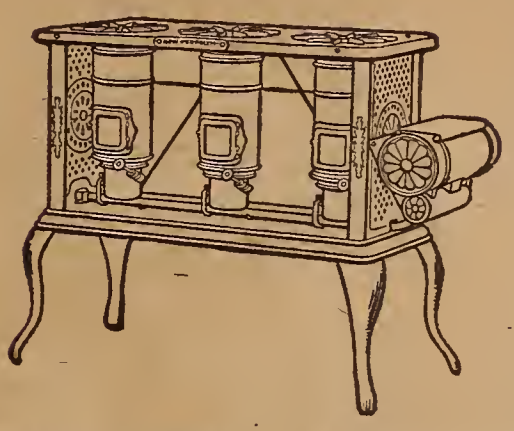
For fruit growers it is best to manure from the surface after setting out trees than to plow under manure on the land that is to be set out to trees.

When feeding for manure, we should bear in mind that the quality and value of the manure will differ according to the food consumed and the care taken of the manure.

All coarse fodder grown on the farm should be fed in connection with the grain grown, or else purchased feeds should be fed and the manure returned to the soil.

When vegetation decomposes and returns again to the soil, fertility is maintained. It is more than maintained—it is increased. This is Nature's method of increasing and maintaining a productive soil, and the nearer we can conform to Nature's ways, the nearer we will be to the right way. W. Milton Kelly.

You Will Need an Oil Stove

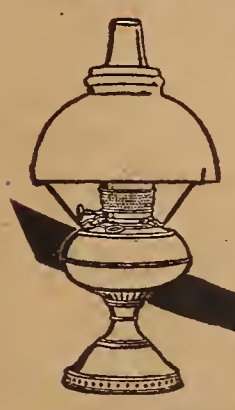


When warm days and the kitchen fire make cooking a burden—then is the time to try a New Perfection Wick Blue Flame Oil Cook-Stove.

Marvelous how this stove does away with kitchen discomforts—how cool it keeps the room in comparison with conditions when the coal fire was burning. The quick concentrated heat of the

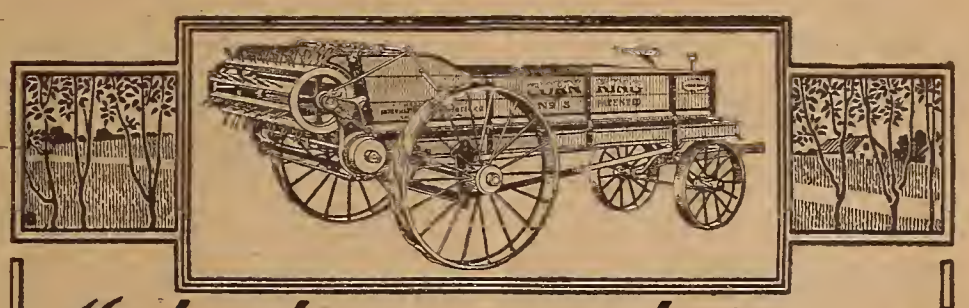
NEW PERFECTION
Wick Blue Flame Oil Cook-Stove

goes directly to boil the kettle or bake the bread, and none is diffused about the room to overheat it. Thus using the "New Perfection" is real kitchen comfort. Made in three sizes and fully warranted. If not with your dealer, write our nearest agency.



The **Rayo Lamp** Just such a lamp as everyone wants—handsome enough for the parlor; strong enough for the kitchen, camp or cottage; bright enough for every occasion. If not with your dealer, write our nearest agency.

STANDARD OIL COMPANY,
(Incorporated)



Make the manure bring you $4 a ton

Thousands of Successful Farmers Are Doing It

There is no charm or secret about it. You simply spread it with a machine, and thus make it go twice as far, get twice as much good from it on the first crop, do your land more permanent good, and save half the time and labor of handling.

Manure is generally estimated to be worth $2.00 a ton handled the old way. There is no doubt that it is worth twice as much to the farmer who spreads with a machine.

Three of the most practical and valuable machines manufactured for farm use today are the **Corn King, Cloverleaf, and Kemp 20th Century manure spreaders.** They are each made in a number of sizes.

These machines differ somewhat in construction and operation, but all three are right working and of great durability.

They are proven machines. They embody the best mechanical ideas, the materials used in construction are the best for the purpose, they are made as simple as possible, and they handle manure in all conditions to the perfect satisfaction of users. Proof of all this is to be found in the record each machine has made in the field.

Is it not to your interest to own and use one of these spreaders on your farm?

Figure out for yourself and you must agree that it will be a paying investment, even if you do not have over twenty-five loads of manure to spread in a year.

You can't help but be pleased with the work, the easy handling, the light draft and the substantial making which saves you the annoyance of breakage and repairs.

Call and see these spreaders with the local International agent. He will gladly point out to you the superior features of these machines, as well as supply you with catalogue, colored hanger or other information.

INTERNATIONAL HARVESTER COMPANY OF AMERICA
(Incorporated)
Chicago, U. S. A.

We Know What's Under The Paint

2-year Warranty and Guarantee of Satisfaction.

Runabouts from $24.00 to $50.00
Buggies from $33.00 to $90.00
Surreys from $50.00 to $150.00
Farm Wagons from $42.85 up

Save $15.00 on your Buggy

We absolutely are the ONLY Catalogue House in the world owning, controlling and directly managing a VEHICLE PLANT.

$42.25

WE saved thousands last year from $15.00 to $30.00 according to the grade they selected. **We can do it for you.**

Take our "Square Deal" No. 1240, Leather-quarter top full size; board boot; hardwood bottom body with 1⅞ in. ash sill; triple braced back; extra braced seat sides; 4 seat rods; triple braced gear; triple braced shafts, etc. Every drop of paint put on by hand—no dipping. We challenge any dealer to touch it at less than $65. Our price **$50.00**

You cannot buy our No. 2 for less than $60.00, our price, $42.25. Our Surrey No. 186, $68.80, would cost you locally $85.00. You are buying direct from the manufacturer when you send your order to us. The middlemen's profits and expenses we cut out. **Send for our special Vehicle Book.** It shows, not tells, but shows you how we build our work; why we grade it, which you know is the only way to give an honest value for the money; it explains how you may order any rig, hitch to it, try it and if not satisfactory we will make it so; it gives our 1 and 2 year warranty. You want the book—we know you do. **Send for it at once.** 800,000 copies ready. **Get one.**



$42.25 Our Factory

We know What's Under the Paint

5t **Montgomery Ward & Co.,** CHICAGO and KANSAS CITY

FLAX CULTURE

Comparatively few farmers grow flax. The reason for this is that this crop is "hard" on the soil. It is said that a sixty-five-bushel crop of corn annually removes from the soil twenty pounds of phosphoric acid, seventy-five pounds of nitrogen and sixty pounds of potash. A fifteen-bushel crop of flax takes from the soil eighteen pounds of phosphoric acid, fifty-four pounds of nitrogen and twenty-nine pounds of potash. It will be seen from this that a corn crop removes the larger amount of fertilizing elements; yet it leaves the land in better condition than a flax crop.

The reason why flax leaves land in poorer condition than some other crops that remove a larger amount of nitrogen, etc., has not been well understood. It has been thought that flax plants excreted substances injurious to itself. However, Professor Bolley, of North Dakota, has upset this theory. He claims the reason flax cannot be grown on the same land for more than two or three years in succession is due to a fungous disease. This fungus may attack the plants at any stage of growth. It makes them wilt, hence the name "flax wilt."

After this disease is once in the soil it takes the removal (growth) of four or five other crops before flax will again make a good crop.

By keeping the spores of flax wilt out of the soil, this crop will succeed itself with as good results as is the case with other crops.

By treating flax seed before sowing with formalin, in a manner similar to that in which oats and barley are treated for smut, the spores of flax wilt can be kept out of the soil.

Should the remedies offered by Professor Bolley for growing flax in short rotation prove as successful elsewhere as they have with him in North Dakota, this crop will, as it deserves, be grown more than now.

Even if flax may not bring more profit an acre than other crops commonly grown, it should be grown more than now for feeding to farm animals.

Ground flax seed is good for cows, as it increases the flow of milk, and it possesses the power of giving a fine, glossy coat of hair. Especially is it valuable when all kinds of stock are growing new coats of hair.

That flax seed is much used for calf feeding is quite well known. It deserves to be used more than ever, for since the advent of the hand cream separator calves are weaned to skimmed milk sooner than used to be the case. Flax seed, ground or cooked, is better for calves than linseed-oil cake. The latter already has its fat removed, and therefore cannot be of value in replacing the fat that has been removed from skimmed milk.

For pigs, too, flax seed (ground) is of value in producing a healthy growth of muscle and in furnishing necessary fat.

When flax is grown in small patches, the farmers here cut it with a grain cradle. It is left in swaths until dry before being bound. When several acres are grown, a self-rake reaper makes cutting expeditious. It can be cut with a binder, too. The binder must not be threaded, so the flax will be thrown out unbound.

Though by treating seed it may be possible to grow flax on the same piece of land for a series of years or in short rotation, I think it better, when possible, to grow it in a long rotation.

To commence with, select a clover sod, manure well, and plant to a cultivated crop. Of these may be mentioned potatoes, corn, sugar beets, cabbage, etc. This land, after the removal of the cultivated crop, is plowed in the fall. The following spring flax is sown. This is followed by oats or barley, with which clover is sown. After the clover has occupied the land for two years it is again ready for a cultivated crop.

Of course, when one desires to grow more flax than is to be fed to farm animals, such a long rotation may not be practical, and the suggestions of treating the seed made by Professor Bolley must then be heeded. F. A. Strohschein.

AGRICULTURAL NEWS-NOTES

No farmers' institute, club or grange is complete without a "question box."

Farmers constitute over one third of the thirty million wage earners in this country.

The agricultural problems yet to be solved much exceed in number those of half a century ago.

Information by illustration is the modern way. This plan aids both the lecturer and the hearers.

Recent reports from Australia indicate that the dairying industry is paying better than sugar production.



THERE is an International Agency right near you.

If you do not know where it is, write us and we will gladly send you the address.

This Company has 42,000 agents all over the world, and more than one hundred general agencies located at the important trade centers in the United States and Canada, where large supplies of machines and repairs are carried in stock.

Thus the International Company has made it **easy** for you to buy

Champion, McCormick, Osborne,
Deering, Milwaukee, Plano,
Harvesting Machines.

This Company has made it **safe** for you to buy these machines because of many reasons:

You are **safe** in depending upon the underlying principles of these machines because **you know** they are the six machines in which farmers have placed their greatest confidence through fifty years of practical tests.

You are **safe** in this respect because these machines have proved that they are built upon the right principles by withstanding every test while hundreds of competing machines were condemned and ceased to be manufactured.

You are **safe** in depending upon the greatest improvements in these machines, because the manufacturers maintain a $350,000-a-year staff of inventors and designers to constantly improve these machines and keep them in the place they have established as standard.

You are **safe** in depending upon the quality of material used in constructing these machines because the manufacturers have been able to buy their own coal and iron mines, thus securing the best fuel and ore—their own iron and steel mills, thus producing the best iron and steel, and their own timber lands and saw mills, thus securing the best lumber, and the quantities in which this company buys all other raw materials insure every advantage of highest quality.

You are **safe** in depending upon the quality of workmanship which goes into these machines, because the capital of these manufacturers has enabled them to perfect their equipments and manufacturing facilities in every way that inventive genius and the highest mechanical skill can devise, and gather to their plants the most skillful workmen in every branch of the business.

The business of farming is both profitable and pleasant—if you use International machines.

These machines are durable, because the best materials procurable enter into their construction.

These machines are efficient, because they are correctly designed.

Every precaution possible is taken to guard against the use of inferior materials. Well equipped laboratories are maintained at the Company's steel mills and at each of the several manufacturing plants. All raw materials are subjected to a careful analysis in these laboratories, the second examination at the works being a check on the test made at the steel mills. This rigid system of testing the materials makes it next to impossible for any defective iron or steel to be used in the manufacture of International machines. Without such tests it is impossible to tell the difference between superior and inferior materials. Therefore the small manufacturer must necessarily work at a great disadvantage, for he is continually called upon to replace defective parts.

Before being shipped out, every part and every machine produced by the International Harvester Company must pass the most rigid inspections and tests made by experts who devote their entire time to this work.

Binders are tested by actually binding wire-grass, and even chains are tested link by link by a violent pneumatic machine.

No machine is passed if a single imperfection is discovered, and the trained eyes of the inspectors instantly detect every defect.

Another point of safety for you in the International line is in the matter of repair parts.

If your team runs away or an accident occurs you can **always** get repairs near at hand because a full stock of repair parts is carried at every agency.

And your repairs always fit.

One part is an exact duplicate of another—all exactly like the original pattern.

Repair parts for machines in the International line are being sent out all over the world today, for machines that were built years ago, and each part fits perfectly.

With its 25,000 employes and 42,000 agents, this Company is supporting as many families as there are in Utah or Montana.

So you see you may safely depend upon the strength and reliability of the company behind the International machines.

In the end you get the benefit of the magnitude of this business, because it is by doing business upon such a large scale that the International Harvester Company is enabled to give you these superior machines at such reasonable prices.

Equal in importance with a perfect machine is perfect twine. The most perfect twine made may be had in Champion, McCormick, Osborne, Deering, Milwaukee, Plano and International sisal, standard, manila and pure manila brands.

INTERNATIONAL HARVESTER COMPANY OF AMERICA
(INCORPORATED)
Chicago, U. S. A.

International Line:—Binders, Reapers, Headers, Header-Binders, Corn Binders, Corn Shockers, Corn Pickers, Huskers and Shredders, Corn Shellers, Mowers, Hay Tedders, Hay Rakes, Sweep Rakes, Hay Loaders, Hay Stackers, Hay Balers, Feed Grinders, Knife Grinders, Tillage Implements, Cream Separators, Gasoline Engines, Pumping Jacks, Manure Spreaders, Weber Wagons, Columbus Wagons, New Bettendorf Wagons, International Auto-Buggies and Binder Twine.



Write for Samples and Booklet of
REX FLINTKOTE ROOFING
and see for yourself
J. A. & W. BIRD & CO.,
75 India St., Boston, Mass.
Agents everywhere

Buy Direct From Our Factory

Saving all expenses and profits of the dealer, **Elkhart Buggies and Harness** have been sold direct from our factory to the user for 35 years.

We Are the Largest Manufacturers in the World

selling to the consumer exclusively. We ship for examination and approval, guaranteeing safe delivery. No cost to you if not satisfied as to style, quality and price. Over 200 styles of Vehicles and 65 styles of Harness.

Send for New Free Catalog.



No. 237. One Horse cut-under Surrey with bike gear, auto seats and 1¼-in. cushion tires. Price complete, **$103.** As good as sells for $140 more.



$57.50

No. 676. Top Buggy with padded wing dash and Stanhope seat. Price complete, **$57.50.** As good as sells for $25 more.

ELKHART CARRIAGE & HARNESS MFG. CO., ELKHART, INDIANA

AN ILLUSTRATED FARM AND FAMILY JOURNAL

FARM AND FIRESIDE

WESTERN EDITION

Vol. XXXI. No. 15 SPRINGFIELD, OHIO, MAY 10, 1908 TERMS—{1 Year, 24 Numbers, 25 Cents. 5 Years, 120 Numbers, $1.00.

LIBRARY RECEIVED MAY 6 1908 Department of Agriculture

Truck Farming in Tidewater Virginia

The Gardener Noted the Favorable Conditions of This Region and Took Advantage of Them

THAT the Tidewater section of Old Virginia is one of the most favored sections of the Atlantic coast states for growing vegetables and small fruits on a large scale there can be no doubt.

It lies at the extreme eastern end of the state, and comprises the territory east of an imaginary line drawn from Fredericksburg south through Richmond, Petersburg and Emporia to the Carolina state line. It has a southeastern exposure, and rises from the coast line to an elevation of about one hundred and fifty feet at the line spoken of above.

In addition to a favorable exposure, it is protected from the cool western winds by the highlands of the middle section of the state, while the Blue Ridge Mountains rise to a height of several thousand feet; this, coupled with the fact that the Gulf Stream runs close inland at this point, with a temperature of seventy degrees the year round, makes an equable and temperate climate for truck farming.

The soil is well adapted to vegetable and small-fruit growing, it being of an alluvial nature, deposited upon a clay subsoil. It is easily tilled, being friable and deep, and responds freely to both tillage and fertilization. The ease with which this soil is tilled is greatly in its favor, as it reduces the expense in this line very materially.



A RADISH FIELD SHOWING RIDGES UPON WHICH EARLY VEGETABLES ARE GROWN

The rainfall in the Tidewater section is about fifty inches a year, distributed throughout the entire year, but the greatest precipitation usually occurs during the months of July and August, at a time when most needed for the crops which follow the early vegetables. The rainfall usually takes place after six o'clock in the evening, leaving the days sunny, a fact which is duly appreciated by the truck farmer, especially at harvest time.

Geographically, this section is located to the very best advantage, being within a few hours of Washington, Philadelphia, Baltimore, New York, Providence and Boston by boat, while it is connected by rail with the above cities, as well as to several large inland places, including Cincinnati, Pittsburg and Buffalo. These cities are distributing points for large areas for small fruits and vegetables, and it is estimated that more than twenty million people are supplied by and through them.

The competition between the railroads and the steamer lines is such that freight rates are reduced to the lowest possible point. Transportation by boat is not only a cheap means of getting the products of the truck farms to market, but it is a safe and satisfactory means. There is no shaking or jarring of the contents of packages, which lie as quietly as though stored in the packing shed of the grower, and for this reason it is delivered at its destination in the very best of condition.

Here, then, is a location that has favorable climatic conditions, a suitable soil, the very best of transportation facilities and one that lies at the very doors of a large consuming population—the four necessary essentials for successful truck farming. It is hardly necessary to say that these favorable conditions have been taken advantage of, because this is one of the noted sections for products of the kind mentioned.



PICKING STRAWBERRIES AND SHIPPING TRUCK BY TROLLEY

Of all the Tidewater section, what is called the "Norfolk district" is the largest at the present time. Thousands of acres in Princess Anne and Norfolk counties are devoted to truck farming and small-fruit production, and the growers of these American necessaries reign supreme. General farming has given way before the onward march of a solid phalanx of vegetable gardens, which, in turn, have been crowded farther and farther into the country each year by the rapid growth of the city of Norfolk, so that now town lots are staked out where only a few years ago was a busy scene of trucking life.

The several trolley lines that penetrate the very heart of the Norfolk trucking district are a great factor in quickly and cheaply moving the trucker's crop to the steamer wharves and the railroad stations. These lines traverse, as it were, one continuous garden, for miles at a stretch, and sidings are located right in the midst of large fields, so that packages may be loaded direct to the car from the packing stand.

Oyster-shell roads are another important factor in moving the immense truck crops of this section, there being miles of them, leading in all directions from Norfolk into the outlying trucking districts. These roads afford a means of easy transportation for those who are not so fortunate as to be near a steam or trolley line, and thousands of loads are transported in this manner.

Any vegetable that can be grown in the middle latitude can be successfully raised in the Tidewater section, but some varieties are grown in more generous quantities than others. Among the favorites may be mentioned Irish and sweet potatoes, cabbage, kale, spinach, lettuce, asparagus, tomatoes, snap beans, cucumbers, onions, radishes, etc., while strawberries are the principal small fruit grown for the Northern market.

It is estimated that only five per cent of the truck raised is used for local consumption; therefore the shipments by rail and boat are enormous, and a line of figures can scarcely demonstrate to the average reader the magnitude of the business, nor convey an idea of the great amount of produce required to represent those figures. For instance, authentic reports show that $7,500,000 worth of this "green stuff" is shipped from Norfolk during a single year, yet what do these figures signify? Very little indeed to one not acquainted with the business, and comparisons cannot be made, for there is nothing with which to make the comparisons.

In order that the reader may more fully comprehend, a few figures relative to the shipments of kale and spinach, two winter vegetables, will be given. There is shipped from Norfolk, from September to June, approximately one million barrels of these two products, weighing from sixty to sixty-five pounds a barrel. As a rule twenty-five barrels constitute a two-horse wagonload, therefore the shipments would represent forty thousand wagonloads. If two rods be allowed to each team and wagon there would be a solid procession two hundred and fifty miles long, or more than half way from Norfolk to New York City.

Enough other vegetable products were sent from Norfolk to aggregate 2,750,000

Special Next Issue—"Soy Beans as a Forage and Seed-Producing Crop"

packages, which was the sum total for the fiscal year which ended September 1, 1906.

In the Tidewater section something can be planted and gathered in every month in the year. Three and four crops can be grown and two crops are quite common on the same ground in one season. Nearly all of the early spring crops are followed by corn, cow peas or hay, and any one visiting there in September could not believe that the land had been occupied with truck earlier in the season. These second crops are as good as the Northern farmer usually grows, sixty bushels of shelled corn and two tons of hay being common yields.

THERE ARE THREE CLASSES OF OPEN-GROUND TRUCKERS

Tidewater truck growers may be divided into three classes—namely, the large grower, the small grower, and the medium grower. The small grower raises for the local market, upon which he has a monopoly. The large grower supplies the large cities, and he practically monopolizes that market. He has an office in town, and is in telegraphic communication with the markets of the large cities, and when the price is favorable he sends his produce forward, holding it back when prices are down. These large growers raise produce on large areas of from one hundred to one thousand acres.

The medium grower has no monopoly, and is largely at the mercy of the "wildcat" commission men and the local huckster. These two classes of middlemen usually get the lion's share of the profit, although there is a grower's protective association that has accomplished a great deal in getting a square deal and a fair count for the grower.

There is another class of growers, known as "glass truckers," who practise intensive gardening, using glass and cloth-covered beds and small areas. These men aim to produce earlier vegetables than the open-ground grower, and realize big profits. They often receive two thousand dollars an acre, gross sales, with net profits of one thousand dollars or more an acre, and often grow four crops in a twelvemonth.

When four crops are grown, the beds are sown to lettuce in September, and harvested in December; put out to lettuce again, and harvested in March; cucumbers follow the second crop of lettuce, which in turn is followed by peas, corn, etc., thus making the four crops. This rotation can be varied to suit the grower and the call of his market by using parsley, beets, squash, melons, cabbage, potatoes, etc.

The beds, or frames, for glass trucking are made to suit the grower, and may be five feet or nine and one half feet wide and from one hundred to two hundred feet long. If the beds are permanent they are placed close together and so constructed that the ends and cross bars can be removed and the ground prepared with plow and cultivator. If the beds are not permanent they are located with open spaces between, and the spaces plowed and fitted, the frames being moved to the prepared ground. When it is desired to grow an early vine crop, like cucumbers, the plants are started in the covered beds, a crop of some kind occupying the open space that will be out of the way by the time the vine crop needs the space, the frames are removed, and the vines cover the whole space with a solid mat.

FOUR CROPS A SEASON MAY BE GROWN IN OPEN GROUND

It is also possible to grow four crops in the open ground in one season with the intensive method. To accomplish this, spinach is planted in September, cut off by March 1st, and followed by lettuce. The third crop is snap beans, started between the rows of lettuce. The fourth crop may be cantaloupes, planted between the bean rows in May, and harvested in July and August, and all done without protection.

The large growers do not try to raise so many crops in a season on the same ground, two being the most common. The early truck is usually followed by some farm crop, as corn, cow peas, second-crop seed potatoes, etc. Large areas are devoted to a single kind of vegetable, thirty acres in radishes being common, while fifty and one hundred acres are often put out in cabbage and potatoes.

It is a common practise to put out the winter and early spring crops on ground that is worked up into ridges of various widths. This is done principally for drainage purposes, as the copious rainfall requires numerous ditches to carry it away from the crops before damage is done.

The ridges for cabbage are made the shape of an inverted V and are about three feet apart.

The ridges for such plants as spinach, lettuce, etc., are made wider, so that from four to six rows about eighteen or twenty inches apart may be set on each ridge, or bed, as they might be properly called. In some cases these beds are so made that they have a southern slope, thus making a southern exposure to a level field and furnishing drainage at the same time.

Planting and harvesting of some crop is going on each month in the year, and data of some of the principal crops are given herewith:

Early cabbages are set out in November and March and harvested in May and June. The late crop is set in July and harvested in November and December. It is usually shipped in barrels and crates of eighty to one hundred pounds capacity, with a freight rate of eighteen cents to New York and thirty cents as far away as Boston. The crop amounted to 341,779 barrels in 1906.

Kale is a strictly winter product, sown in August and harvested throughout the winter. It is shipped in barrels of about sixty-five pounds capacity, with a freight rate of fifteen cents to New York and Washington and twenty-five cents to Boston, 615,683 barrels being shipped in 1906.

Spinach is another winter-growing vegetable, and is sown in August, September and January, the crop being marketed in February, March and April. The weight and freight rate are the same as for kale, 323,681 barrels being shipped in 1906.

Lettuce is put out in February and March and harvested in April and May. Sometimes, however, it is allowed to stand out all winter. It goes to market in baskets of about thirty pounds each, with a freight rate of twenty cents to Baltimore.

Radishes are extensively planted, being sown broadcast on ridged ground, in January, February and March and harvested in April and May. They are shipped in baskets of about forty-five pounds each and barrels of about one hundred and twenty pounds.

White potatoes are grown largely and rank next to kale in the number of barrels shipped, the total number for 1906 being 447,926 of an average weight of one hundred and sixty pounds each, with a freight rate of twenty-five cents to New York and eighteen cents to Baltimore. Potatoes are planted in February if the weather is favorable, otherwise in March, and the harvest takes place principally in June. Sweet-potato sprouts are set out in April and the crop is harvested in August and September.

HUNDREDS OF ACRES IN STRAWBERRIES

Strawberries are about the only small fruit grown for shipment, and hundreds of acres are devoted to the culture of this fruit. The matted-row system is practised, and it is estimated to cost from one hundred to one hundred and twenty-five dollars an acre for growing, fertilizing and shipping. The plants are fertilized in the spring with a machine drawn by horse power, two rows being covered at one time. The fruit is shipped mostly in sixty-quart cases, which cost seventy-nine cents freight to Boston, fifty-two cents to New York and forty-two cents to Baltimore.

With all its favorable conditions there are some drawbacks to the Tidewater section, and the trucker is forced to meet serious problems, that of labor being the most difficult one.



A GLASS TRUCKER'S FARM

Showing the cloth-covered bed on the right and the glass-covered bed on the left, with an open space between planted to spinach

Fertilizer bills are also assuming considerable proportions, as the price has steadily advanced, until now the best grade of truck fertilizer has reached the forty-dollar mark and nitrate of soda is sixty dollars a ton. This high price means much to the trucker who uses commercial fertilizers by the carload.

These and other problems that have to be met often cause the downfall of those engaged in the business, and it has resolved itself into a question of the "survival of the fittest," the weaker ones being forced to succumb to the inevitable—close competition.

FRANK M. LUTTS.

Thoroughness and Persistence

They Are Keynotes in Success

HERE is part of a letter received from a man in Ohio, who five years ago wrote me that he had been faked by a real-estate man who had sold him eighty acres of the meanest land in the state, representing it as a good farm.

"When I discovered that I had been sold in buying this farm, I sat down and talked the whole matter over with my wife. Then I wrote you. Then I went to work, as you told me, not with a rush, but steadily, and with a purpose. There were ten acres of land that was good, but because of a drain that was choked with brush and trash it remained very wet until about June. The boys and I opened the drain and deepened it, and got the water off as fast as it fell. Then we plowed it so that the furrows all emptied into the drain, and it was ready for planting by the middle of May. We had put on it all the manure we could rake up, and we actually raised a good crop of corn on it.

"We then tackled a twelve-acre tract of weedy, brushy pasture land, got down all the trash, and burned it, then sowed it heavily with clover, redtop and timothy, harrowed, or brushed, or raked the seed in, as we could get to it. All the neighbors said we were fooling away our time, that we never would get a stand of grass that way. I bought two sacks of fertilizer and sowed it on the thin, unpromising spots, and we put all the manure we could get on other parts. Late in July and again in the fall we ran over most of it with the mowing machine. The next year we raised a good crop of grass on it, and it has been getting better ever since.

"We have been on the place five years now, and it looks like a fine, productive, profit-yielding farm, and we could sell it any day for eight times what we gave for it. I can tell you that I felt like I had been badly cheated when I came on and found what I had bought; but instead of sitting down and whining about it, I just went to work as though it was all right, and made it all right.

"The two boys are running the place now, except the garden and poultry part, and are doing finely. We have our eyes on an adjoining ninety-acre farm that is much better, naturally, than this, and next year we shall buy it, as we already have an option on it. We are not growing a hundred bushels of corn to the acre, or doing any great things, but we manage to sell a good deal of stuff every year, and to keep the cash, or most of it, and we think we are doing very well, considering our chances. We like to read your articles about people who are winning success by steady, patient, brainy work. They are encouraging to such as us. If steady work, economy and good sense will win in one place, it will in another."

That is the kind of letter I like to receive. This man states that after he bought this farm he learned that it had been sold to different parties four times in four years, and each purchaser had given it up as worthless. He determined to make a great effort to get something out of it, and did. Management made the farm pay.

A man may work, and work hard, sixteen hours a day, and still lose out. I have seen men pitching hay from the ground onto the wagon, and from the wagon to the stack, and though they worked like beavers, they accomplished very little, because they did not go about it right. I have seen other men doing the same kind of work, and they moved so easily and slowly that one felt like spurring them up a little, yet they really accomplished almost twice as much as the other fellows. They made no useless, unnecessary motions, but when they put the fork in the hay they put it into the top layer and lifted it up without any effort to speak of. They used their eyes to guide their hands right, and were not everlastingly pulling and tugging at the under layers. I had one poor fellow pitching a load off one hot day, and after he had worked himself up to sunstroke and done very little, I asked him what was the matter. "I don't know," he replied. "It just seems to me that every bit of this load is on top of itself." After I showed him how to find the top layers and lift them off, instead of digging under them, he got along quite well.

The man on the poor farm saw he had a problem on his hands. Instead of going at it blindly and working himself and boys half to death, and finally giving up in despair, he used his eyes and brains to learn where to begin, then easily lifted the top layer, and continued until he had made a paying farm of it.

The farther I go along in life, the less reason I see for a brainy man to be poor or without a home. I have seen people climb up to independent circumstances growing vegetables for a little home market; others by growing flowers; others seeds; others small fruits; and many by raising poultry. I have always advised against attempting to make a living, or even "pin money," by raising squabs or broilers, because of the many difficulties to be met with, yet I have seen a few, after several years of experience, doing quite well in these specialties. Still, I could not help feeling that if the same study and effort had been directed in other lines, a much greater success would have been theirs.

I have seen farmers who seemed to be having a hard tussle with finances pay a big price for a high-class breeding sow, and from that time begin to climb right up to good circumstances. They gave their pigs the special care and study required to make tiptop stock, and in a short time became known throughout their respective localities as having stock of the highest quality, and men came to them and paid six to twenty times the price of common pigs for breeders.

Others have taken up other lines and made a great success. One man I know sold six hundred bushels of seed corn one season at a dollar a bushel, when ordinary corn was selling at forty cents a bushel.

In an effort to win success in any of these lines one must remember that thoroughness, extreme care and persistence are the keynotes, as, in fact, they are in any other line of business. Those who cultivate these traits will always win. It is the slipshod who fail.

FRED GRUNDY.

NEW SAWS AND FRESH FILINGS FOR FARMERS

Fertilizer means new life in old soil.

Strong butter weakens the desire for buttered bread.

Travel makes a bad road worse and a good road better.

Six days spend in the kitchen—the seventh in the parlor.

Money actually grows on trees down on the farm—apple trees.

The automobile not only has come to stay, but it has come to speed.

A farmer is not known by what he eats, but by what he feeds the world.

Plowing, Progressing, Profiting—three P's for the plodding agriculturalist.

If the farmer is to cultivate thrift in his boys he must praise thrift when it appears.

Some cattle never get too old to consider it beneath the dignity of their years to jump over a fence.

In some parts of the country the roads are either bad because they have been newly worked, or because they have not been worked.

Give us postal savings banks and parcels post, Uncle Sam, and we will give you a greater patriotism and loyalty and a better citizenship.

The sun smiles upon Mother Earth, Mother Earth smiles back in the richness of her fruit, and the farmer easily catches the spirit, and smiles, too.

The average field has four corners—except when surrounded by a worm fence; then it has hundreds of corners, and each one covers valuable ground.

W. J. BURTSCHER.

Making the Home Beautiful

The Common Plants Will Help Us

HOME, "be it ever so humble," should be made a place of beauty.

A happy home is always beautiful, the more beautiful, the greater the happiness. How many homes are devoid of love and all else that is good and beautiful, simply through some sinful neglect of duty by some thoughtless and perhaps too busy a guardian of the abiding place of those who should be his loved ones. People are going a very rapid pace in these modern times. Too many are so intent upon gain for personal gratification that they forget the real good things of life.

Home should be the sweetest spot on earth to us all. Those who have not found it so must stop and think. Have they done all in their power to make home the one dearest spot on earth, the most beautiful and the most-beloved place in the universe?

No matter if it is a little old log cabin under the hill, with the green fields all about it, and with the post and rail fence going to rack, and the spring of cold water gushing out from beneath the old maple in the rear, or the stately palace of stone or brick, with its broad verandas and large bay windows, with exquisite furnishings and plenty to sustain it, the home should, and can easily, be made a place of beauty. Let the light of wisdom and the peace of God reign, and love will dwell therein, and then it will be an easy task to make home more beautiful. The humblest of abodes will yield to a few touches from the brush of Nature.

KEEP THE SURROUNDINGS ATTRACTIVE

The modest country home, the one we love to remember, can be improved wonderfully by a few days' cleaning up. Straighten up those crooked fence posts, and nail on a few pickets where those are missing. Dig up those unsightly old quince bushes in the front yard, and remove the old dead cherry tree that has been there as long as you can remember. Take the grindstone back in the barn yard or workshop, and move the ash barrel into the side yard, where you can build a shed over it, and allow grandmother to make her soft soap, just as she did fifty years ago. Trim up those old-fashioned rose bushes, and reset the hollyhocks along the garden fence. Make a new arbor for the beautiful honeysuckle vine, and level up the ground a little and sow some grass seed. See if a little generously applied labor does not produce a marked change. If the house is old and dingy, and you cannot afford to repair it and make it appear more modern, you can add much to its appearance in keeping the surroundings neat and attractive. Flower seeds and bulbs are not expensive, and even if you do not have the ready money to procure them from the dealers, a little study and labor on the part of those in the home can produce a number of attractive ornamentations to a little home. It is an easy matter to secure a few of the more common plants, and neat beds, with an old hollow stump and several rustic hanging baskets, and a rock mound of native ferns, will completely transform the dreary place into one of comfort and real beauty.

SELECT THE COMMON SHOWY FLOWERS

Any one desiring to arrange a flower garden can do so with decided effect if they but use the simplest of designs and select the more showy varieties of flowers, and arrange them in such a manner as to produce the most beautiful effect. Do not attempt to have too great a variety, and avoid the sorts that are the least known and most difficult to grow. Select a few tulip and hyacinth bulbs, and plant them in a bright, sunny space where the warm spring sun will do the rest. Take care of these bulbs, and do not allow them to be swallowed up or crowded out by other plants or weeds during the summer. Secure a few rose bushes, and keep them free from slugs, and do not allow the bushes to become too large. There is a number of very pretty and attractive flowers for the home, and it depends much upon one's taste as to the proper selection; but do not forget the sweet peas, the nasturtiums and the verbenas, all of which are to be had in almost endless colors and hues. Candytuft, sweet alyssum, petunias, asters, and last, but not least, the dahlia, should have a place in every home.

Some very unique and novel effects can be produced by a person studying the nature and bloom of certain plants. Letterings, and figures representing certain things, can easily be arranged, and the effect is charming.

Clematis and numerous other vines are easily trained over pretty trellises and neat archways, and where the person has taste and the skill to carry it into effect, some very odd and unique designs can be arranged. The vine-covered designs will add much to the beauty of a home, and the expense is so little and the labor is so delightful as to make the reward tenfold.

The autumn flowers should not be forgotten, for as the sun begins to seek a place in the southern sky, and the leaves begin to turn, the few remaining flowers are all the more precious. The aster and dahlia are my two favorites. They are so easily grown and the blooms are so beautiful that it is an incomplete garden without them.

There is almost an endless variety of asters. They are produced from seed, and if allowed to do so, the plants will reseed the beds for the coming season, and all they will require is thinning out, cultivating and watering.

The dahlia is produced from bulbs set in open ground early in the warm spring months. The bulbs should have well-fertilized earth and a cheerful, sunny location. From the time the bulbs begin to grow until they put forth buds for blooming, the soil should be kept well stirred about the plants and kept reasonably moist. After the buds appear, and during the blooming season, the earth must not be disturbed only on the surface, and weeds and grasses must be kept out. A few applications of liquid fertilizer will assist materially in producing the desired effect. The dahlia ranges in color from a very deep scarlet to the purest white. Some of the plants are rather dwarf, while others grow quite large, and to retain a neat shape they should be tied to a stake about the time they begin to bloom.



GRAND DUKE ALEXIS DAHLIA

One of the most beautiful varieties of dahlias is the Grand Duke Alexis, the flowers of which can be grown six inches in diameter, and which are a beautiful ivory white. The accompanying illustration will give a slight idea of the size and beauty of this variety.

The bulbs should be lifted when heavy frosts appear, and kept in a cool, dry cellar until the following spring.



ORNAMENTING A CITY HOME

Those who have handsome home structures can make them much more attractive by the selection and growing of a few choice plants. Even a city home, where the air is full of impurities, and people are as a rule too busy to spend much time with flowers, the home lover can add much to his happiness by giving a few moments each day to Nature, and in so doing he will find the much-needed rest much easier gained.

A home without a flower must certainly be a dreary place indeed, and in most instances it is a sure sign of the absence of love for God or affection for each other. Let us each resolve to make home more beautiful, more attractive and more like a genuine home should be.

JOHN T. TIMMONS.

THE FARMER AND THE SCALE

If the conditions existing in western New York, where the San Jose scale is well distributed, are a fair indication of conditions in other districts, the small, isolated orchards, planted more especially for home purposes, are comparatively immune from the attacks of that pernicious insect, the scourge of the orchardist in districts where orchards are large and numerous.

The few trees on a farmstead that is a mile or half mile away from a large orchard, even if that be badly infested with the scale, may remain free from scale for many years. The insect does not move from tree to tree, or orchard to orchard, on its own account. It has to be carried, either on nursery stock or on the legs of birds, insects, etc.

Of course, every farmer must plant. He would not do his duty to his family and justice to himself, nor live up to his most valuable privileges, if he did not occasionally set out fruit trees or small-fruit plants. This means that now and then he must procure stock from a nurseryman. The chances are that such stock is free from scale. Nurserymen take a great deal of pains to have clean stock. Their reputation, their whole business, depend upon it. A nurseryman cannot afford to send you scale-infested trees. Yet it will be well for every farmer who plans such things to keep close watch of it for a while.

If any young tree or any currant bush shows grayish incrustations on any limb, or if you find even an occasional small roundish red spot on the bark of the new apple or pear twig, or such red spots on an apple or pear in mid-summer or fall, either treat the young tree for scale—or destroy it. When you once have the scale on your trees, prompt action is needed. The large orchardists have a full equipment of everything needed to spray their trees—power sprayers, boilers and tanks for making the lime-sulphur spray mixtures, etc. The farmer who finds his small block of fruit trees infested with scale has no such advantages. Usually he has not even a barrel sprayer. This is one of the things, however, he should have on the farm, and it should be a good one.

A force pump that will admit of using eighty or one hundred pounds pressure, with hose, nozzles and extension rod, can be had for ten to fifteen dollars, and may be fitted to an ordinary kerosene barrel costing seventy-five cents or one dollar. Such a sprayer is a very handy thing to have on any farm for washing verandas, wagons and for many other purposes, and is absolutely indispensable for spraying large trees.

The question is what to spray with and when to spray. The best plan for the farmer with his few trees is to let a neighboring orchardist, if there is one who regularly sprays, go over his trees also, at a stipulated price a tree. If that is not practicable, then the most available spray mixture must be selected. The preparation and use of lime-sulphur wash is almost entirely out of the question. The average farmer is not prepared for making it. He has neither the necessary knowledge nor the equipment for making it.

I have heretofore used crude petroleum just as I got it from the Standard Oil Company. It costs about eleven cents a gallon, and it requires about a gallon or more for a medium-sized tree to do a good job.

Bulletin No. 86 just issued by the Agricultural Experiment Station of Pennsylvania speaks of miscible oils and how to make them. I quote from it the following: "Petroleum and some of its products have long been used as insecticides. While highly efficient as such, the unmixed oils alone are dangerous to vegetation, often killing the trees, unless used in the dormant season, and then with considerable care." Prof. Charles L. Penny, who wrote this, herein makes one fundamental mistake which should be corrected.

Spraying trees with petroleum during the dormant season is just what in many cases has done the mischief. I spray with clear petroleum in early spring, just when the buds open or the first leaves begin to show, without the least fear of injuring the trees or bushes. If delayed until the tree is nearly in full leaf, blossoms and foliage may be damaged.

I believe, however, that we now have in scalecide and the other soluble oils which are now offered commercially, ready for dilution with water, the spray materials most available for and most conveniently used by the average farmer on the average isolated farm. Diluted with water in the proportion of one to twelve or fifteen, they are safe and sure.

◈

FOR PLEASURE AND PROFIT

A reader gives the following description of his home:

"I have a fine residence, in a nice town, near the lake in Erie County, Pennsylvania, about four acres of ground, with beautiful shade trees, apple, peach, pear, plum and cherry trees, but no small fruit. There is about two acres of good soil with nothing on it. I have been wondering what I could put on it that would give me the most pleasure and at the same time the most profit. The market is good for anything one may have to sell."

A fortunate situation indeed! And who would not enjoy such a home! That our friend knows how to appreciate it is easily told from his own short description. "No small fruit" is the only weak point, and this is easily remedied by the right use of the two acres of good soil, now "with nothing on it." What could give him more pleasure and profit than to have a succession of small fruits during their season, both for his own use and for sale in a market that is "good for anything one may have to sell?"

Strawberries, raspberries, both red and black (especially red), blackberries, currants, gooseberries—all are wanted in the family in generous supply, and are in ready demand everywhere. Their cultivation, with the exception of that of the strawberry, require no particular skill. Make a good selection of kinds, plant them, and keep the ground loose and free from weeds, and you will have good crops for years to come. A bed of strawberries has to be planted every year, of course. Yet we cannot do without them very well.

I would also have a good patch each of asparagus and rhubarb. These vegetables, if once planted, are good for many years, and they are easily tended and give good returns. If there should still be land unoccupied after planting these crops, I would plant it in early potatoes, early peas, and the like. The two acres thus planted would in a few years contribute materially to the owner's income. At any rate, they will pay a large share of the family expenses and add immeasurably to the comforts and enjoyments of rural life.

This will also answer the query of an Indiana reader who lives in a town of twelve hundred inhabitants, and has purchased a vacant lot adjoining his home lot. He cannot spare much time in tilling it. He might grow some of the bush fruits, and perhaps rhubarb and asparagus.

T. GREINER.

A BLUE MARK

in the square below indicates that you are an old subscriber and that *your subscription expires this month.*

Renew at once by accepting one of our offers now.

A SQUARE DEAL

BEFORE ORDERING ANY
ROOFING
YOU WILL SAVE MONEY BY WRITING FOR OUR FREE ROOFING BOOK
"THE SQUARE DEAL"
IT TELLS YOU WHAT YOU WANT TO KNOW ABOUT READY-ROOFING
—IT SHOWS THE DIFFERENCE BETWEEN THE IMITATION AND THE GENUINE
WORLD'S STANDARD ASPHALT ROOFING
—IT TELLS YOU HOW TO KNOW A "SKIN-COATING" FROM A DURABLE COATING
—IT SHOWS YOU HOW TO TEST READY-ROOFING TO KNOW WHETHER IT WILL LAST
—IT SHOWS YOU THE DIFFERENCE BETWEEN "DIPPED" AND "SATURATED" ROOFING
—IT EXPOSES ALL THE "RUBBER", "OIDE", "EX" AND "ITE," NONSENSE
WRITE TODAY. IT COSTS NOTHING
WE GUARANTEE THAT THE WORLD'S STANDARD ASPHALT ROOFING
NEVER NEEDS RECOATING OR PAINTING OF ANY KIND
ELABORATED READY ROOFING COMPANY (INC.)
4403 La Salle St., Chicago, Ill.
THE OLDEST AND LARGEST ASPHALT READY-ROOFING FACTORY IN CHICAGO

Wait Till You Get Our New Low Price Direct

Don't gamble, or take any chance on the buggy you buy. Get a Columbus Buggy of 19 years' High Standing—now sold direct from our factory at factory prices to the user. Try the style you like at our risk.

Take a Month's Trial of a COLUMBUS BUGGY

Get the best vehicle and know it's the best by trial—or money back.



Our Big Free Buggy Book shows large savings on Columbus Vehicles of High Quality and All Styles. Just mail us a postal for

Big Free Book of 1908 Showing All Styles and Lowest Factory Prices

Even if not yet ready to select a buggy, drop us a line for this Free Book and Low Prices, so as to get posted. Also shows fine harness. Write today.

The Columbus Carriage & Harness Co.
2031 S. High St.
Columbus Ohio

HAY PRESSES

Guaranteed enough better than the best of other makes to earn 6 per cent interest as follows, or no sale.

The Alligator 6% Int. on $13687.50
" Favorite " " " $18000.00
" Hercules " " " $22812.50

Great Money Makers. For conditions address
J. A. SPENCER, DWIGHT, ILL.



3 STROKE SELF FEED HAY PRESS



2 men can run it. 3 tons in one hour. Easy draft. Smooth bales. Will save its cost. Shipped on trial. SATISFACTION GUARANTEED.

THE AUTO-FEDAN HAY PRESS CO. 414 E. 10TH ST. TOPEKA, KANS.
BRANCH OFFICE, 1521 W. 12TH ST., KANSAS CITY, MO.
Ask for Catalogue 7

ORNAMENTAL WIRE AND STEEL FENCE



Cheaper than wood, combining strength and art. For lawns, churches, cemeteries. Send for FREE CATALOG. Address The Ward Fence Co. Box 725 Decatur, Ind





ORNAMENTAL FENCE
25 DESIGNS, ALL STEEL
Handsome—cheaper than wood—more durable. Special prices to churches and cemeteries. Don't buy a fence until you get our free catalogue.
Kokomo Fence Machine Co.
427 North St., Kokomo, Ind.

Review of the Farm Press

VALUE OF CROP ROTATION

WE BLAME the early settlers for wheat raising and for exhausting the soil of fertility; but at that time markets for other farm products were poor, roads bad, and the farms a long distance from markets, so that under the circumstances perhaps they did the best they could at that time.

Wheat is a crop that can be marketed at any season of the year and always brings cash. But now, with better markets nearer the farms, and better roads, it would be folly to still raise wheat exclusively, as the continued growing of one crop year after year exhausts the elements in the soil that go to make its growth, and as wheat is a crop that is universally sold, the fertility is sold, also. The aim of the farmer is to raise the largest possible crops on his farm and still maintain the fertility of the farm.

All plants differ in their feeding capacity. One requires more of a certain element than of another; again, one feeds near the surface, being shallow rooted, while another will send its roots down deep into the subsoil and use elements that the shallow-rooted plant could not reach, and by bringing these elements up and storing them in the larger roots and crown of the plants, leave them where the shallow-rooted plants can use them. Therefore, we must follow some kind of a rotation.

This will differ according to the kind of farming we are following. At the present time, especially in Wisconsin, we are live-stock farmers, and in most cases dairymen. This being the case, what kind of a rotation should we follow to keep the farm in the very highest state of fertility? Most dairymen keep hogs to use up the by-products from the dairy, and they must keep horses to work the farm, so they have a variety of stock. This being the case, they can use a great variety of feeds.

The rotation course will vary according to the amount of stock kept in proportion to the acres. If the farm is very heavily stocked, perhaps a four-years rotation is best; that is, after seeding one half the farm to clover and grasses, next year seed another fourth and break up one half of the first seeding, or one fourth of the farm, and plant corn; follow the corn with small grain and seed down again; make hay the first year from the new seeding and pasture the second year. In this way you will have one fourth of the farm in pasture, one fourth in hay, one fourth in small grain and one fourth in corn.

A rotation of crops will destroy a good many insect pests, as they usually attack a particular kind of crop, and the field being in a different crop the following year, they disappear or perish. It also helps to rid the farm of certain kinds of weeds that seem to thrive best with certain crops. It also distributes the farm work more evenly through the year.

I am satisfied after the experience I have had with several run-down farms in Wisconsin that if the people will adopt a three or four year rotation, as I have outlined, we will have no abandoned, worn-out farms in this state, as they have in the East.—David Imrie in The Wisconsin Agriculturist.

◈

MANURE FOR VEGETABLES

A rich soil is the secret of success with nearly all vegetables. It is better to say a very rich soil. Corn will do well on a fairly rich soil, but for the garden vegetables take a soil that would make corn give a yield of one hundred bushels an acre.

Many complaints because garden products do not come up to expectations, and do not equal the seedman's description, arise from the poverty of the soil where they are grown.

Vegetables of small size, tough and tasteless in quality, hark back to thin, worn-out soil.

Before the ground is plowed for the garden, haul on well-rotted manure, and spread it three inches thick over the surface. This fertilizer should have been for two years in the compost heap, so that it is thoroughly pulverized, and will mix with the soil.

Beets, peas, cabbage, tomatoes, onions and turnips will all boom with such feeding.

But when it comes to vines, that is only the first step. Put a shovelful of the same stimulant into each hill. Mix it thoroughly, and if the plants get a week's start, they will grow so fast that the yellow bug can't keep up with them.

For celery, which is perhaps the rankest feeder in the whole list of vegetables, the application of manure should be doubled. Pile on all you can plow under. The satisfaction and the profit in growing vegetables come from perfect specimens, large crops on small areas.

To attain this end fertilize and cultivate. There is no magic or luck in it. It is just labor directed by common sense and experience.—The Homestead.

◈

FERTILIZER SITUATION IN OHIO

There is great trouble in the fertilizer situation in Ohio. In that state the fertilizer control is in the hands of the state board of agriculture. The secretary is fertilizer inspector, and he has four deputies who go over the state collecting samples for analysis.

The board of agriculture in Ohio consists of ten members—two elected each year for a term of five years. Those members are elected by a convention of delegates from the various county societies. Where there is no county society the county institute society sends a delegate. Now last summer one of the fertilizer deputies died suddenly. Investigation convinced the officers of the board that this man had been "switching" samples for the Smith Agricultural Chemical Company. It is claimed that he collected samples from goods actually on the market, and then, instead of sending these true samples for analysis, sent others specially prepared, so that they would analyze above the guarantee. At any rate, after this man's death true samples were collected and analyzed. Every one fell below the guaranteed amount required by law.

Charges on the one hand of bribery and on the other of attempted extortion are made. The secretary of the board made up his report, showing the low quality of these fertilizers. Just as it was to go to the printer the Smith Company obtained an injunction restraining the board from issuing its report. This is on the plea that the board is not legally organized. A hearing on this injunction has been put off from time to time in spite of the demands of the secretary. The report is held up and farmers are unable to learn how the fertilizers sold in Ohio last year stood up to their guarantee. At the same time articles are appearing in the Ohio papers, evidently inspired, attacking the state board and attempting to discredit it before the people. The evident intention is to try to show that the board is illegal and that its work is untrustworthy, so that the truth about these inferior fertilizers may not be made public.

This is a situation which ought to make the farmers of Ohio get on their feet and fight. Has it come to a point where a fertilizer firm can hold up a state board so as to prevent the publication of clear evidence of violation of the law? If so, there are just two things which the farmers of Ohio can do. They can sit down with folded hands and humbly take what comes to them, or they can make such a fight for their rights that the legislature will listen. They ought to compel the Ohio State Senate to investigate this case at once.—The Rural New-Yorker.

◈

THE VALUE OF SILAGE TO THE DAIRYMAN

First—It will enable him to keep his stock through the winter six months at less cost than it is possible for him to keep them six months in the summer on blue grass.

Second—It will provide a succulent feed for his stock in winter and make it possible for them to make as much gain in winter with the mercury at twenty degrees below as they will make in June, and produce it at less cost.

Third—It will enable the man with a small farm to double the size of his herd, and he will be able to winter his stock on the fodder from his corn field which has always been practically a waste product. This will enable him to take out the fences between his pasture and meadow and double the size of his pasture. It will enable him to raise more acres of corn, which is the great cash crop of Iowa. The growing of more corn will enable him to fatten more hogs, which are known as the mortgage lifter.

If silage feed is provided for summer feeding it will make it possible for the dairyman of a small farm to raise calves and grow for himself a choice herd and produce practically all of the feed for them on his own farm, giving him a feeling of independence. That he cannot have when he has to depend on the market for his feed. He can turn his farm from a simple living for himself and family into a profitable industry, and so on and on. The silo will multiply the opportunities of the dairy farmer.—L. H. Paul in The Iowa State Register and Farmer.



DEAD CHICKS



Does each morning's visit to the hennery show a dead chick here and there—more to-day than yesterday? It's the lice—and *now* is the time to *work* if you wish to save even a fraction of your promising brood. Ask your dealer for a can of

INSTANT LOUSE KILLER



Dust it over each mother hen and each individnal chick and you will find no more dead chicks from lice. Instant Louse Killer, formulated by Dr. Hess (M. D., D. V. S.) also destroys lice on horses, cattle, ticks on sheep, bugs on melon, squash and cucumber vines, slugs on rose bushes, and is besides a valuable disinfectant and deodorizer. It comes in shaker-top cans and may be used winter and summer alike. Look for the word "Instant" on the can, as there are many imitations.

Sold on a written guarantee.

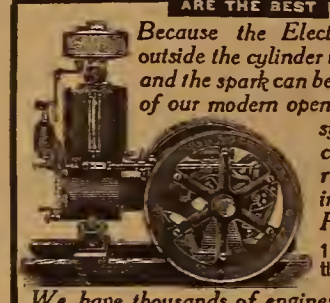
1 lb. 25c. } Except in Canada and extreme West and South.
3 lbs. 60c. }

If your dealer cannot supply you, we will forward 1 lb. by mail or express, prepaid, for 35c.



MANUFACTURED BY
DR. HESS & CLARK,
Ashland, Ohio.

Stickney Gasoline Engines
ARE THE BEST



Because the Electric Igniter is outside the cylinder where it is cool and the spark can be seen, because of our modern open tank cooling system and because of 57 reasons told in—Stickney's Free Catechism

1½ to 16 H. P. Stationary and Portable

We have thousands of engines in successful operation because of our years of experience in making engines of the best material and most accurate workmanship. Send for Catalog.

Charles A. Stickney Company
Main Office and Factory, St. Paul, Minn.
Branch, 55 Batterymarch St., Boston, Mass.
AGENTS EVERYWHERE SELL STICKNEY ENGINES

30.95 3 YEARS GUARANTEE
ON HIGH GRADE VEHICLES



SEND TODAY for our FREE VEHICLE CATALOGUE, a handsome book printed in colors and explaining our low prices, three-year guarantee and free trial offers on road wagons, runabouts, top buggies, surreys, spring wagons, road carts, pony rigs and harness; also our wonderful arrangements for QUICK DELIVERY, SMALL FREIGHT CHARGES and a buggy built special for your roads and climate.

SHIPPED DIRECT FROM OUR WAREHOUSE IN YOUR STATE.

IF YOU WANT A FARM WAGON, delivery or business wagon, farm truck or log truck, send for our free Wagon Catalogue which explains our long time guarantee, our low prices and free trial offer.

FARM WAGONS $31.15 and up



Address, SEARS, ROEBUCK & CO., Chicago

The Undermounted Avery

Double Cylinder 18, 20, 22 and 30 H. P.



No Boiler Strains

We can show that this engine has:
Increased Durability, More Power, Greater Convenience
When coupled to our 8 or 10 Gang Steam Plow makes best Steam Plow Outfit built. 64-page catalog free to threshermen.

AVERY CO. 532 Iowa Street, Peoria, Ill. Makers of Threshing, Steam Plowing and Corn Growing Machinery.

NORTH

TELEPHONES specially adapted to farm lines. Sold direct from factory. Book of instructions how to organize farmers and build line free. Write for Bulletin No. 304. The North Electric Co., Cleveland, O. Kansas City, Mo. Dallas, Tex.

FOR FARM LINES



Fruit Growing

BY SAMUEL B. GREEN

TIME FOR MAKING WILLOW CUTTINGS

A. S., Garfield, North Dakota—The winter is a good time of year to make willow cuttings. In making them up, tie in bundles of about one hundred each, and have the tops all the same way. Bury the cuttings under moist straw or earth until ready for planting in the spring, or place in a cold cellar. The cuttings will keep well anywhere if cool and moist without being wet.

◈

PLUM ORCHARD NOT BEARING

H. C. T., Benson, Minnesota—I do not think your trees are at fault for not bearing plums the last two years. I think the trouble has been largely something of a climatic nature. The fact is that plums generally in Minnesota have done poorly for several years. There are, however, a few plum orchards that have done well there in these years, and the mystery for us horticulturists is what has made it possible for a few orchards to bear when the others have failed. I have not yet been able to explain it to my satisfaction.

◈

NORWAY POPLAR

W. B. W., Black Water, Illinois—The Norway poplar is certainly a very rapid-growing tree, and I think is destined to become very popular for its rather inferior timber. I do not think it can be grown successfully on land where the water table in the soil is less than three feet from the surface throughout the larger part of the growing season.

I doubt very much if it would be necessary for you to tile the lake bottom to which you refer, and should think you might accomplish all that would be needed by means of an open ditch.

Just at present cuttings of this poplar are difficult to obtain, and I think it would be a good plan for you to get a few thousand of them and plant out this spring, and from them you should be able to get a good start another season.

◈

TULIPS, PANSIES AND SWEET PEAS

Mrs. L. J. D., Fergus Falls, Minnesota—I am inclined to think that the tulips you have, and which are weak, will not amount to much, as it is probable that you have some weak variety. The best way for you to do would be to buy some of the hardiest kinds (which generally can be purchased for one dollar and fifty cents or two dollars a hundred). These will multiply rapidly if planted in good soil.

To secure pansies for large flowers it is important, above all, to start with first-class seed, as there is a great difference in the size, color and substance of the flowers from different strains of seed.

I presume your plants that have run up tall have been grown in too shady a situation. Pansies generally are small in size during hot summer weather, and for that season of the year it is generally best to grow them on the north side of a building or in other places where they will not get direct sunlight. In order to get first-class summer pansies the seed should be sown in the early spring, but for early spring pansies the seed should be sown in autumn.

Sweet peas should be planted in full sunlight, in rich, deep, retentive soil. It matters little whether the rows are extended north and south or east and west, but of the two I prefer the former. It is important to pick the flowers every day, since otherwise the plants will go to seed and soon stop flowering.

◈

GROWING POST TIMBER

J. T. S., Good Thunder, Minnesota—Judging from your description and from what I know of the general conditions in southern Minnesota, it is my opinion that the land to which you refer is well adapted for the growing of forest trees.

You will perhaps be surprised to have me state that I think the most profitable tree for planting for post timber in this section would be the common white willow, putting them two feet apart in rows eight feet apart. This tree quickly attains a size large enough for fence timber. While it is not especially durable in contact with the soil, yet if peeled and cured, a six-inch post will last six to eight years. The trees should be cultivated until their tops shade the ground.

I think the near future will see the practise of treating fence posts with antiseptics very general, and the willow is a good wood to take up this material. Properly treated in this way, the wood of very inferior species, such as willow, poplar, etc., may be made durable in the soil.

I think the Catalpa speciosa is not well adapted for your location, and would not be very profitable. It is, in fact, quite likely to kill to the ground in very severe winters in Minnesota and northern Iowa.

The black locust would very likely prove to be a profitable tree, as it is of rapid growth and hardy, and the wood is well adapted for fence timber. On account of the attacks of the borers, I would be rather loath to recommend your planting it on a large scale.

The European larch would very likely do well and make durable timber. It is, however, a rather difficult tree to get started, and of course does not renew itself by sprouts from the roots, as is the case with the willow, black locust and catalpa.

I think that some black locust could be used mixed with the willow. It must, however, in that case, be the dominant tree, as it is very intolerant of shade. The black walnut could be used on any of this land, and would undoubtedly make good post timber. I am inclined to think that you might find it profitable to put out a few acres in what is ordinarily called white ash in Minnesota and northern Iowa, which is really a form of the green ash. This wood makes good post timber. It is also useful for many other purposes.

Neither the pecan nor chestnut thrive well in southern Minnesota and northern Iowa, although it is more than likely, if the chestnut was planted in a favorable location within the limits of your grove, where it would be somewhat protected, you would get something of a crop.

◈

THE BEST TIME FOR SPRAYING FRUIT TREES

C. H. B., Burlington, Kentucky—This is quite a complicated matter, and it is rather late in the spring now to begin inquiring about it. As you do not state the kind of fruit trees you wish to spray, I would suggest that what you need is a general treatise on this subject. I do not know whether your experiment station at Lexington furnishes directions of this kind, but you might write them in regard to it. If you had stated what trees you wish to spray, I could have answered you in these columns.

◈

APPLES AND PEARS FOR MASSACHUSETTS

J. H., Worcester, Massachusetts—For early use I would suggest Williams, Red Astrachan and Duchess of Oldenburg; for autumn use, Wealthy and Fall Pippin; for winter, Baldwin, Sutton and Rhode Island Greening.

Pears for summer, Clapp's Favorite, Bartlett; for autumn, Seckle, Louise Bonne de Jersey, Duchess and Sheldon.

◈

SPRAYING MIXTURES

A. W. H., Amboy, Minnesota—I could not tell you how many gallons of Bordeaux mixture you would need to spray your orchard, for the reason that you did not state the size of the trees, and this, and the thoroughness with which the work is done, would determine the amount of material you would need. But for trees of medium size in full bearing I should think fifty gallons of the mixture would do for forty trees if it was put on thoroughly.

I think that arsenate of lead is not preferable to Paris green where it is mixed with Bordeaux mixture, as it is somewhat more expensive, and its chief advantage, as compared with Paris green, is that the arsenate of lead adheres to the foliage. In case the Paris green is mixed with the Bordeaux mixture it will adhere well. It is not acetate, but arsenate of lead that is used as an insecticide.

There is no objection to using six pounds of lime to four pounds of blue vitriol in making your Bordeaux mixture, although in my experience I have had good results with using equal amounts of lime and blue vitriol—that is, the formula five pounds lime, five pounds blue vitriol and fifty gallons of water. The only advantage of powdered blue vitriol is that it dissolves quicker than the ordinary form; but this is not worth paying for, as it is easily dissolved if hung in a bag at the top of the water. However, it dissolves slowly when thrown into a vessel of water and allowed to remain at the bottom without stirring.

With young apple trees that are badly infested with the Buffalo hopper, I think probably the best treatment is to give the trees extra good care and extra fertilizing, and that the badly infested branches should be removed and burned where this can be done without seriously injuring the trees.

◈

EVERGREENS FOR NORTHWESTERN NORTH DAKOTA

O. M. A., Fargo, North Dakota—I do not know of any evergreen that can be depended upon in northwestern North Dakota. In that location I think I should plant white willow and green ash, and after these are well started, then it might be a good plan to start some evergreens under their protection. For this purpose I think red cedar and white spruce are probably most desirable.

It would be all right to grow the seedlings in Minnesota or Iowa for a few years, and after they are well started transplant them to North Dakota, provided they were grown from seed gathered from pretty well north.

I do not expect very much from the evergreen windbreaks in so severe a climate as northwestern North Dakota.

As to preparing the ground, it should be got into as fine condition as necessary for a good corn crop before any planting is attempted. More failures with prairie windbreaks come from attempts to plant trees on land not more than half prepared than from any other one cause.

After these plants are well started it would help them very much if they could be mulched every winter, but for a few years I should prefer to cultivate the land and work the mulch into the ground during the summer after they are well started. I think they could continue to be grown by mulching the land throughout the year. Of course, this mulch makes the trees liable to injury from fire, from which they must be protected.

I do not think it practicable in your location to grow evergreens by simply digging large holes in the sod in which the trees are planted, and then mulching them. I think this method would be pretty sure to fail.

The Chemistry of Good Roofing

A roof is exposed to about every destructive force in nature, to wit:—

Oxygen: A colorless, invisible gas in the atmosphere that can eat the heart out of a poor roof in six months.

Sun rays: Will cause the volatile elements in coal tar, asphalt and cheap oils to evaporate in a very short time, leaving a hard, brittle, porous mass, which is soluble in rain water, and of practically no protection whatever. The presence of volatile elements in tar and asphalt is shown by the gaseous odor which escapes from them.

Rain water: Dissolves and carries away the products of decomposition caused by the effects of oxygen on the tar or asphalt saturant used in ordinary roofings. This is the reason that tar taints rain water.

Wind: Eats away the crumbling surface of a roof that has been damaged by oxygen, heat rays and rain water.

REX FLINTKOTE ROOFING

From the foregoing facts it seems clear that a *good* roof must be composed of elements which oxygen does not attack, which are absolutely non-volatile and which are insoluble in rain water.

REX Flintkote Roofing is made of the best quality long fibred wool felt, very tough and firm, which is impregnated with a heavy gum. This gum has been triply distilled, thus removing all volatile elements. Oxygen will not injure the gum. It contains no elements that are soluble in rain water. The wool fibres are wholly impregnated with this gum, thus protecting them absolutely against *all* the elements.

This triply distilled gum is the most costly saturant used in roofing; nevertheless REX Flintkote costs less than shingles or metal roofs, although superior to either.

REX is sold by good dealers everywhere.

Booklet and free samples on request.

J. A. & W. BIRD & CO.

75 India St., Boston, Mass.

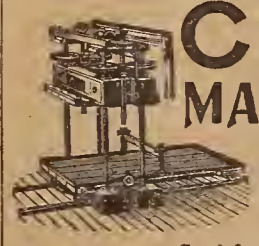
30¢ A GALLON FOR READY MIXED PAINT



Have you heard of our latest and greatest offers in Ready Mixed House, Barn and other Paints?

Comparatively speaking, we have reduced the cost of painting to next to nothing, and made it so easy that a boy can do the work. If you don't know all about our great paint offer, then look in one of our Big Catalogues for the Paint Department. If you haven't the Big Book, borrow your neighbor's, otherwise, on a postal card addressed to us simply say, "Mail me your great free PAINT OFFERS AND FREE PAINT BOOKS." Address,

SEARS, ROEBUCK & CO., CHICAGO, ILL.



CIDER MACHINERY

We have had 35 years' experience in furnishing outfits for both Custom and Merchant Cider Mills.

OUR GOODS ARE THE STANDARD.

Send for catalogue.

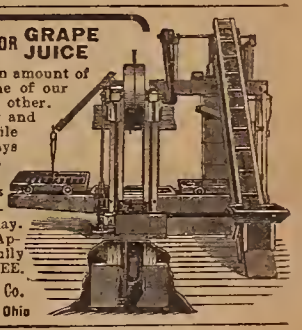
BOOMER & BOSCHERT PRESS CO.,

99 West Water St., Syracuse, N. Y.

MORE GOOD CIDER OR GRAPE JUICE can be made from a given amount of apples or grapes with one of our presses than with any other. The juice will be purer and bring higher prices, while the extra yield soon pays for the press. We make

HYDRAULIC Power Presses

in all sizes, hand or power. 25 to 400 barrels per day. Also Steam Evaporators, Apple-butter Cookers, etc. Fully guaranteed. Catalog FREE.



The Hydraulic Press Mfg. Co.

6 Main Street, Mt. Gilead, Ohio

Saw Mills

If you need anything in saw mills or wood working machinery, send for our catalog. Our line is complete. Goods highest quality and prices reasonable. American Saw Mill Mach. Co., 130 Hope St., Hackettstown, N. J. New York Office, 602 Engineering Building.

3 FEEDS TO THE ROUND SELF FEEDER ADMIRAL HAY PRESS CO. KANSAS CITY, MO. 2 PROFITS IN HAY BALING



IF YOU LOVE FLOWERS WRITE ME A LETTER (not a postal) and I'll gladly mail you a splendid lot of Perennials—six mixed packets of my choicest Seeds:—Carnations, Pansies, Everblooming Pinks, Forget-me-nots, Carpet Saponaria and Giant Snapdragons, all hardy, lasting and beautiful—enough for six big beds that will be the envy of your friends. Now is the time to sow them. I'll also send a sample copy of **Park's Floral Magazine**, in its 37th year, finely illustrated, and teeming with practical floral notes and reading. It cheers, brightens and beautifies more than 450,000 homes monthly. WHY NOT YOURS? **GEO. W. PARK, B67, La Park, Pa.**

BETTER STILL—While writing, just enclose 10 cents and I'll send the Magazine on trial for a year, and a big Surprise Mixed Package of Perennials old and new—Columbines, Bellflowers, Foxgloves, and hundreds of other kinds, making a bed of surprising novelty, variety and beauty. No dime could afford more pleasure. Money back if not satisfied. Club of 3 only 25c. Club with friends. This ad. will not appear again.

Gloxinias, 5 tubers in 5 colors, all for 25 cts. **Begonias**, Double, 7 fine tubers in 7 colors, all for 25 cts.



FOR MAN-POWER

HURST POTATO SPRAYERS ON FREE TRIAL

NO MONEY IN ADVANCE—Spray first, then pay us out of the extra profit. Sprays Everything—potatoes and truck 4 and 6 rows at a time. Man-power and Horse-power. High pressure and perfect agitation. Vapor spray stops Blight, Scab, Rot, and Bugs. Brass valves, plunger, strainer, etc. **Guaranteed 5 Years.** Wholesale prices (where no agt.) We pay freight. Write for our free Spraying Guide, Catalog, and Free Sprayer offer. H. L. HURST MFG. CO., 103 North St., Canton, Ohio.



FOR HORSE-POWER



BERRIES that bring the biggest prices are those which combine fine flavor with good size and shipping quality.

The best results are obtained by using an abundant supply of a complete fertilizer containing 4 per cent. nitrogen, 9 per cent. available phosphoric acid, and at least 10 per cent. of actual

POTASH

This formula will be found productive of wonderful results with all kinds of berries.

Detailed information is given in our free book—a valuable treatise on scientific fertilizing. It is complete and trustworthy and contains suggestions which will mean money to the man who follows them out. Address

GERMAN KALI WORKS
New York—93 Nassau Street
Chicago—Monadnock Building
Atlanta—1224 Candler Building

Nitrate of Soda

NITRATE SOLD IN ORIGINAL BAGS

The Nitrate Agencies Company

64 Stone Street, New York

Orders for All Quantities Promptly Filled—Write for Quotations

The HOOVER POTATO DIGGER

Light running, well built, low in price—the most satisfactory machine to use.



Made in two sizes. Send for catalogue and ask about trial offer.
THE HOOVER MFG. CO.,
Box 22, Avery, Ohio.



Take Off Your Hat to the **MYERS**
The only Glass Valve Pump—never sticks—never fails—always ready. Also HAY TOOLS, Barn Door Hangers, Hay Rack Clamps. Write today for Circulars and Prices.
F. E. Myers & Bro., 29 Orange St., Ashland, O.
THE PUMP THAT **PUMPS**



SAVE MONEY on **Berry Boxes and Baskets**
Fruit and Vegetable Packages and Growers' Supplies of all kinds. Write for free money-saving catalog and price list. New Albany Box & Basket Co., New Albany, Ind.
Largest Factory of Its Kind in the Country.

THE LARGEST AND BEST LINE OF
WELL DRILLING MACHINERY in America. We have been making it for over 20 years. Do not buy until you see our new Illustrated Catalogue No. 15. Send for it now. It is FREE.
Austin Manufacturing Co., Chicago

WELL DRILLING Machines
Over 70 sizes and styles, for drilling either deep or shallow wells in any kind of soil or rock. Mounted on wheels or on sills. With engines or horse powers. Strong, simple and durable. Any mechanic can operate them easily. Send for catalog.
WILLIAMS BROS., Ithaca, N. Y.

CALIFORNIA Irrigated Fruit, Alfalfa Farms. Easy payments. Special offer. New Gov't aided canal. Catalog free. Wooster, 702 Market St., San Francisco.

Gardening

BY T. GREINER

THE NEW CELERY CULTURE

SOME one wants "reliable directions for raising celery six inches apart each way." The inquirer irrigates his gardens. Otherwise the most reliable directions would be: "Don't attempt it."

To make a success of the "new celery culture," as the close-planting method has been called, requires soil that is especially adapted to celery and abundantly supplied with plant foods, a never-failing supply of soil moisture, and of course the selection of self-blanching varieties of celery. Even then I would not care to plant a large patch at the distance mentioned.

It would be far safer to give to each plant a space of at least seven by ten inches, or eight by eight inches. Once or twice I had fairly good White Plume grown on this plan, and the crop was immense and very profitable. But unless all conditions happen to be favorable, the outcome will not be satisfactory. And for quality, especially for home use, give me the celery that has been blanched in the old way, by boards, or still better, by earthing up.

BEDDING SWEET POTATOES

The general practise of sweet-potato growers is to plant whole potatoes in the seed bed, and to place them about an inch apart. The uncut potatoes are less liable to rot, and if one does rot, the rot is not liable to spread to its neighbor in the bed if they are not so close together that they touch.

Colorado reader says: "We bed in pure sand. Last year I bedded one hundred and twenty-five pounds, uncut, and obtained eight thousand plants. Season being late, I had to leave them in the hotbed until most of them were vined and some had little potatoes on them. As an experiment I set out one row of slips from those big plants, and they made as good potatoes when dug as any I had, and we raise fine sweet potatoes here."

The space covered by an ordinary hotbed sash (three by six feet) will require about a bushel of good seed potatoes, and give about two thousand plants at the first pulling, and possibly another thousand plants ten days later. It will do no harm, however, if the vines get rather large before they are pulled and set out; but there will be less in number.

In the Norfolk, Virginia, trucking region, three years ago, I saw fine and promising fields of sweet potatoes that were planted from slips cut rather late from running vines of the first-planted patches, and I find that it is quite a regular practise in various parts of the South to make later plantings from slips thus obtained. Such pieces of vine may simply be pushed down into the soil, in proper place, with a forked stick.

MUSHROOM GROWING

The subject of mushroom growing seems to hold out temptations for many persons of both sexes who have been told of the ease of producing the crop in cellars and sheds, and of the great profits secured by mushroom growers.

I find that the successes as against the failures are in a decided minority, and that the profits even of the few successful growers are very far from reaching the tempting figures often claimed on paper and in theory.

The proper time for attempting mushroom growing in cellars, sheds, greenhouses, etc., is from September or October until spring. I have had some good mushrooms, seldom, however, in paying quantities, on and under the greenhouse benches in March and April. All that can be done at this time, however, is to make a trial outdoors.

If you have a rich old pasture, a knoll or other piece of dry ground, where the soil is a good loam and covered with old sod, a high and dry corner of a pasture lot where horses and cattle have been in the habit of congregating, and where the ground is filled with the droppings and urine of these animals, in short a piece of ground that is naturally adapted to mushroom growing, you may help Nature along by planting mushroom spawn some time early in June, and secure a crop of mushrooms in their natural season in August, September or October.

Buy some good brick or flake spawn. Every reliable seedsman can furnish it. Break it in pieces about as big as a walnut. In the richest spots in the pasture lot cut the sod with a spade in such a manner that you can raise a corner of it far enough to enable you to place a piece of spawn underneath. Let the sod corner fall back into place and pat it down solidly over the spawn. That will be about all that is necessary, and if you have good luck, you may get a good supply of fine mushrooms when the time comes—next fall.

PEAS AND POTATOES

One of our Ohio friends has a piece of gravelly loam that is "too poor to grow clover." He thinks of sowing field peas to plow under, with a view to planting a late crop of potatoes the same season.

I do not imagine that this course is practicable. I grow several patches of oats and peas every spring, for green feed. The Canada field pea, which is the one to be used for such purposes, requires too long a season for making nearly its full growth to allow potatoes to be planted afterward the same season with any hope of getting a full crop.

I would not care to plant potatoes on land too poor to grow clover. Our friend might grow a crop of cow peas and plow them under. Or he might apply lime, say one thousand pounds or more an acre, and then try clover again. Nurse the clover up by feeding it a few hundred pounds of muriate of potash and twice that quantity of superphosphate, or in place of these fertilizers, a ton or so of wood ashes (even then a little superphosphate will go well with it). Plow the second crop of manure under, and you will probably have better success with potatoes, early or late.

HANDLING SOME VILLAGE LOTS

An Illinois reader wants to know how to fertilize some village lots. One half of the land is very light loam, dry, like dust, while the lower half is heavy loam.

He has tried potatoes on them. The bugs damaged them so that the crop was light on the light loam. On the lower part the potatoes rotted, as there was much rain. He keeps poultry and has plenty of chicken manure. He can grow big crops of beets, and has lots of beet tops that he might plow under. It does not pay him to raise cabbages, as he can buy them very cheap. And what could he raise for his chickens? Sunflowers will not do, as the birds eat most of the seeds.

With plenty of hen manure available for manuring a piece of ground, the manuring problem is easily solved. Poultry manure cannot be too highly appreciated for the home garden, or for a village lot, either. It is not so very rich in potash, and for most garden crops I would also use wood ashes if they are at hand, or a little muriate of potash. I would not mix these two things together, but apply them separately as a top dressing after plowing, and work them well into the soil by harrowing or with the cultivator.

The light dry loam probably needs more humus, however, and I would try to get this land in clover or alfalfa, or possibly cow peas, and plow a crop under so as to fill the soil with decaying vegetable matter and nitrogen. Then if you plant early potatoes, and attend to the "bugs" in time, by spraying with arsenate of lead (or better, with Bordeaux mixture, to keep the blight in check, also), you will probably raise good and paying crops of potatoes. If you let the beetles eat the tops off you cannot expect full crops.

I could hardly name a more profitable crop to raise for chickens than beets. The hens will eat considerable quantities of them during the winter, either in the raw state or cooked. Sunflowers are a most excellent crop for poultry, and will succeed on lands too wet for corn, potatoes, squashes or similar things. Birds are liable to feed on the sunflower seeds, and they will have to be harvested very promptly.

If you can think of nothing else to grow for the chickens on your moister and heavier loam, try Canada field peas. They make excellent chicken food, rich in protein and good for stimulating egg production. But with your plentiful supply of hen manure you have the best chance, also, to grow a general line of garden vegetables. The light loam is high and dry, and presumably warm, and when you make it rich enough you can grow good crops of lettuce, radishes, peas, table beets, early onions, in fact just those early crops which in the fore part of the season are readily salable and bring good prices and good profits. Asparagus, rhubarb, strawberries, etc., belong in the profitable class of early products, also. You may have your choice.

WEEDY ASPARAGUS BED

"Colorado reader" complains of the hold that quack grass is taking in his asparagus bed, and he fears that he must move the roots to some other place. The plantation is now about seven years old. But as he gets from six to twenty cents a pound for his asparagus stalks, he hates to take the plants up this spring, as he cannot afford to lose this year's crop. What is to be done?

In a case like this I would surely make a new plantation. Asparagus always sells, and always pays if properly managed. But I would procure strong one-year-old plants for it from a reliable nursery or seedsman, and keep the old plantation over for one or two years more. Dig it over the best you can, pulling as many of the grass roots out of the soil, and trying to get as big a crop of asparagus as the circumstances will permit.

In two years from this spring the new plantation will be ready to yield full crops. It may take considerable work to save the old patch from being overrun with the grass or other weeds, but it will pay.

EARLY CABBAGES

When we raise early cabbages for sale, we want them early, really the earlier the better. Prices rapidly decline, usually, as the season advances. If we grow them for home use mostly it does not make so much difference. And if we have neglected to sow seed early under glass, so that we have no early plants at hand, and perhaps cannot easily get them, we don't have to go without cabbages in early summer (July or August) after all.

All we have to do is to sow seed of one of the good early sorts, such as Early Wakefield or Eureka (Maule's First Early), in hills, four or five seeds in a place, and later thin to one good plant in the hill. These cabbages will be a little later than those grown from good plants that were started early under glass, but they are early enough to be classed among the early ones and will come very acceptable. Early Winningstadt may be started in the same way, and will then come a little later for succession.

GARDEN NOTES

Where nitrate of soda is used it should always be covered with soil.

To raise early beets, make a little trench beside each row, and scatter in a little nitrate of soda and cover it.

If you want early squashes or pie pumpkins, work into the soil around each vine a handful of hen manure.

The best crop to follow early peas is squashes. Peas add nitrogen to the soil, and this must be present in order to raise a good crop.

To raise early cabbages, begin when the plants are small, and scatter around each a little nitrate of soda, and repeat every two weeks.

If you want ripe tomatoes early, make the ground rich with fine barn-yard and hen manure. When you set out the plants, cut off all the lower branches, and work into the soil around each a teaspoonful of nitrate of soda, and repeat every ten days. M. L. PIPER.

Stick some cucumber seeds in a pasteboard box and have them ready to set out, two inches high, when other people are planting the seeds in the ground. Then you can enjoy cucumbers so much earlier.

After the first new leaves come on currant and gooseberry bushes, look out for the well-known currant worm. A simple remedy is a solution of one ounce of fresh white hellebore in three gallons of water, sprinkled or sprayed on the bushes at once. Don't delay a moment.

Did you ever hear a farmer say that he has no use for a garden—that it does not pay? The man is a loser who holds to such notions. He misses the pleasures of having vegetables to eat in their season, and he has to pay household expenses which would not accrue if a good garden were allowed to contribute to the food supply.—Farm Journal.

Poultry Raising

Feeding Methods on a Roaster Plant

So many theories in regard to the feeding of poultry are being exploited that it is refreshing as well as profitable to get at first hand a statement in regard to the practise on a big plant where the feeding question has been thoroughly thrashed out and a plan put into operation which is giving perfectly satisfactory results. All this is particularly true when the successful plan is exceedingly simple and totally devoid of frills.

Mr. Henry D. Smith, of Massachusetts, is one of the most successful growers of roaster chicks in the East, and on the occasion of a recent visit I was particularly impressed with the fact that the feeding of both growing chicks and of laying stock was done with very little labor, comparatively speaking, and that the feeding problem, as it often is spoken of, was no problem at all there. Mr. Smith uses no wet mashes and has demonstrated that the dry-feeding system is commercially practical as well as greatly economizing both in time and labor.

PREPARED CHICK FOODS ARE USED

The newly hatched chicks get one of the prepared chick foods at first, and are fed five or six times a day. It is especially necessary to have a good variety, that being one of the first principles of feeding, both in the case of chickens and of mature fowls. After a few days a dry mash consisting of two parts bran to one of corn meal, with some beef scraps, is fed in troughs three times a day.

When the chickens reach four weeks of age, or three if they are growing rapidly, the chick feed is discontinued and a scratch feed substituted. This scratch feed consists of two parts of cracked corn to one each of hulled oats and cracked wheat. The dry mash is continued, however, as before. Every morning second-growth cut clover is distributed among the pens in the brooder house. It will be seen that the practise as outlined is much more simple than when it is necessary to mix a large amount of wet mash. Mr. Smith raises between five and seven thousand chicks each year, so that the saving of labor is an important point.

When the chicks are about two months old they are removed from the brooder house to colony houses which accommodate fifty birds each, and are scattered about the farm sufficiently far apart so that the grass is not killed down by the chicks running upon it. Each colony house is provided with a hopper, which is kept supplied with cracked corn, so that the birds have this grain always before them. Each hopper is large enough to hold a bag of grain. Another smaller hopper is used for beef scraps, and there is a six-quart wooden water pail in each house. When snow is on the ground, cut hay is given to take the place of grass. In addition, either oats, barley or wheat is also fed to each pen of growing chicks once a day. No exact quantity is given, the amount being regulated by what the birds eat, and the different grains are alternated so as to afford a variety. When there is no snow on the ground, the grain is simply scattered in front of the door. Of course, on stormy days it is fed inside the house.

FRESH AIR A NECESSITY

The chicks in these colony houses have an abundance of fresh air at all times, as the windows are never entirely closed, except in the case of a driving storm. Last winter the weather was unusually bad for several days, and it was deemed best to keep the houses closed tightly. When the weather cleared, the houses were opened up again, and many of the chicks immediately developed bad cases of colds, showing the disadvantages of close confinement. There are no perches in these colony houses, and even the pullets which are being saved for breeders never have a roost at night until they are removed to the laying houses.

The methods followed in the feeding of the laying hens are as simple as those which prevail on the other portions of the plant. The hens have a dry mash always before them in a long trough. This mash consists of equal parts by measure of corn meal, middlings and ground oats, with one half part of beef scraps. A scratch feed consisting of three parts of cracked corn and one each of oats, barley and wheat is scattered in a deep litter of hay or straw. No specified amount is given. The attendant carries a bag of grain into each pen and distributes it in a broad circle in the litter. When he comes around the next time he feeds liberally if the grain of the previous feeding seems to have been well cleaned up; if not, he feeds more sparingly. Mr. Smith does not believe in stinting any of his stock in the matter of feed. Of course, grit, oyster shell and charcoal are constantly before the birds, and cut second-crop hay is fed in liberal quantities.

Feeding in this manner and running his whole plant with an eye to economy in labor, Mr. Smith is able to conduct his business with the help of one man. For his own part, he usually devotes only a few hours a day to the chicken branch of his business. Much of his time is spent in caponizing, installing brooder systems, and similar work, so that the bulk of the labor of growing the chicks is done by one man, bearing out the statement which Mr. Smith has made, and which has stirred up considerable discussion, that one man alone can raise from five to seven thousand chicks a year.

Mr. Smith caponizes most of his male birds, believing that he increases his profits considerably by doing so. He keeps four hundred laying hens and produces all of his eggs for hatching, even having a few to sell at times. He has been as successful in producing eggs as in raising chicks by the dry-feed method, his records showing that his hens have averaged a profit of over two dollars each. He sells all of his roasters alive to a dealer who ships them to Boston. The price ranges from twenty to thirty cents a pound during the spring and early summer months, and each bird must weigh over four and one half pounds to be classed as a roaster.

ECONOMY THE WATCHWORD

Economy of labor and time is the watchword on Mr. Smith's farm. His one assistant is often left to do all of the work alone, and never seems to be overworked. An electric regulator in the brooder house minimizes the amount of attention which the heater requires, and a tiny electric bulb in each incubator illuminates the interior of the egg chamber at the touch of a button. Although Mr. Smith has a large farm, only about ten acres are devoted to the poultry yards, runs and feeding grounds, so that the area to be covered in feeding the chicks in the colonies is not large. Mr. Smith has tested his methods and proven their value, for he is one of the most successful poultrymen in the East.

E. I. Farrington.

FOR COLDS AND ROUP

Roup generally results from a neglected cold. There are as many remedies and ways of treating roup in fowls as there are in doctoring catarrh with people.

In the first place, whether it is a genuine case of roup or a bad cold, I would remove the afflicted bird to a warm, dry place—a place that is absolutely free from draft—that is, if the fowl is not far advanced with the disease. If it is, kill and burn or bury it.

Peroxide of hydrogen half diluted with water is one of the best remedies in use. This should be applied night and morning by washing the face around the eye and in the mouth. It is harmless and a thorough cleanser.

Fumigate all places where the poultry is kept, by burning sulphur and carbolic acid, and every evening heat a brick very hot and drop ten drops of carbolic acid on it, and compel those that are well, as well as the ones showing symptoms of the disease, to inhale the fumes for several minutes. This is beneficial to both well and sick fowls.

Mashed potatoes and a light feed of ground oats, corn meal, and bran that has been boiled is good food. Put a little ginger in the drinking water.

V. M. Couch.

FORAGE FOR POULTRY

A small enclosure in the chicken yard may be made remunerative. In the early spring spade and prepare the ground as you would the garden. Sow lettuce seed, and when grown, turn in the fowls, and they will eat the tender leaves.

After this crop has been eaten, which will be soon, again prepare the ground and sow rape seed. This will make a quick growth. Turn in the fowls a second time, and this crop also will be eaten.

At other times during the year the enclosure may be used as a pen when needed.

Grace Reynolds.



Early Chicks Pay Best

Take advantage of the first suitable weather conditions in early spring and "set" as many broody hens as possible. You may have plump, tender-meated chicks, from one and a half to two pounds weight, in ten weeks' time after hatching if you give them proper feed and attention. Any of the foods commonly given is all right and your success will be ample, provided you escape a large per cent. of loss from the very common diseases which trouble young chickens.

Most chicken ailments come from dampness or overfeeding. Keep the quarters dry and give a little of

DR. HESS Poultry PAN-A-CE-A

once a day in one of the feeds, and you will save nearly every chick. Where Poultry Pan-a-ce-a shows its great worth is as a tonic to correct the first tendency toward indigestion. Its use gives the organs a proper "tone" and maintains them in perfect health so that the growing chick is steadily deriving from its food every element required to hasten growth.

Poultry Pan-a-ce-a (the prescription of Dr. Hess, M.D., D.V.S.) contains iron to enrich the blood and nitrates to cleanse the system of organic poisons. It makes hens lay, shortens the fattening period for market fowls, and, by its germicidal properties, wards off disease. Endorsed by leading poultry men in both the United States and Canada. A penny's worth is enough for 30 hens one day.

SOLD EVERYWHERE ON A WRITTEN GUARANTEE.

1½ lbs. 25c, mail or express 40c
5 lbs. 60c; 12 lbs. $1.25
25 lb. pail $2.50
} Except in Canada and extreme West and South

Send 2 cents for Dr. Hess 48-page Poultry Book free.

DR. HESS & CLARK, Ashland, Ohio.

Instant Louse Killer Kills Lice.

We save you dollars on READY ROOFING

A dollar saved is a dollar earned

No matter what kind of building you intend to cover you will save **many, many dollars** and get **life-time satisfaction** by using Mica-Noid Ready Roofing. In dollars and cents Mica-Noid will actually save you half on your roofing bills and what's more important it will **wear better** and **last longer** than any other roofing made in this country at any price. It is made so perfect, so strong and so durable that rain, wind, snow and heat cannot affect it in any way and we back up every roll of Mica-Noid with every dollar of our capital. **Direct to You — We Pay the Freight.**

Mica-Noid Ready Roofing

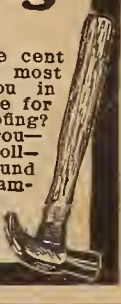
Years on the market and it hasn't leaked yet—thousands of rolls sold and not a complaint.

That's the record of this one perfect roofing. As it will not cost you one cent to investigate and prove that Mica-Noid is beyond doubt the strongest, most durable and surest money-saving roofing made today, shouldn't you in justice to your pocket-book, your property and yourself, write us at once for samples of Mica-Noid and compare and test them with any other roofing? Weigh the matter over carefully—think of the dollars Mica-Noid will save you—the lasting satisfaction it will give—the big strong guarantee behind every roll—be the judge and jury in the circle of your own home and let your sound business judgment decide the question. We will send you Mica-Noid samples, roofing book and literature **All Free.** Write us now—today.



MICA-NOID MFG. CO., 118 Mica-Noid Building, ST. LOUIS, MO.

This Strong, Serviceable Hammer Free with Mica-Noid



Studebaker Quality Supreme

Every ounce of material that goes into a Studebaker wagon or buggy has the "Studebaker Reputation" behind it. Over 50 years' experience has taught us how to make vehicles that last. Every axle—every spoke—every hub—bolt and screw is made by experts. The result—the finest wagons possible to produce have made the Studebaker the

Largest Vehicle Factory in the World

The absolute reliability of the Studebaker line appeals to all careful buyers—those who want honest value. See the Studebaker agent. If you don't know one, write to us. If you will mention this paper and enclose a two-cent stamp we will send you the Studebaker Farmer's Almanac for 1908—FREE.



Studebaker Bros. Manufacturing Co.

South Bend, Indiana



LIGHTNING HAY PRESSES

THE OLD RELIABLE — IN USE 25 YEARS

HORSE POWER AND BELT POWER

OUR VARIOUS STYLES MEET ALL DEMANDS

SELF FEED WOOD OR STEEL PITMAN

QUALITY GIVES BEST RESULTS — SEND FOR CATALOG

KANSAS CITY HAY PRESS CO., 124 Mill Street, Kansas City, Mo.



SPECIAL LOW PRICES!

As usual, Johnson, the Incubator Man, makes a further reduction of 10% on orders from May 1st to Nov. 1st. This reduction for 6 months makes the **OLD TRUSTY** the lowest priced good incubator on the market. **40 Days Trial** allowed as usual. Big catalog, 300 poultry pictures and trustworthy poultry information **FREE** for the asking.

Write for it today. **M. M. JOHNSON, Clay Center, Neb.**



Catalogue FREE

PROFIT and PLEASURE IN IT

No Toy. A Practical Self Regulating 50-Egg **$5** **BUCKEYE** Guaranteed to hatch every hatchable egg. With a 50-chick Brooder, a Complete Outfit **$9.00 Freight Paid** East of the Rockies and **40 Days Free Trial,**

BUCKEYE INCUBATOR CO.

Box C 28 Springfield, Ohio



A Book You Want Get It Free!

Everything you need to know about hogs is contained in Pratts New Hog Book—unquestionably the most valuable book on the subject ever published—full of the very information that will enable every hog raiser to avoid losses and make more money out of his hogs. It describes the different breeds of hogs, tells how to breed them, how to raise them, how to care for them, how to feed them, how to prevent and cure their diseases. That's what you want to know—and that's what the world's greatest Veterinarians tell you in Pratts New Hog Book. We have published it at great expense to sell at 25c—but if you raise hogs you can get a copy free by sending us a postal card with your name and address, saying you want it.

If you want your hogs to grow big and fatten quickly give them

Pratts ANIMAL REGULATOR

This will tone up their system, improve their digestion and keep them healthy. Result—bigger hogs, fewer losses, and more money in your pocket. Get a 25-pound bag from your dealer and try it—costs only $3.25—and you'll find it equally good for cows, horses, sheep and other stock.

GET EXPERT ADVICE

Whenever disease breaks out in your live stock or poultry, or if there is any special information you want, just write to us and our expert Veterinarians will advise you, entirely free.

THE PRATT GUARANTEE

With every package of Pratt preparations you get a double guarantee, signed by us and by your dealer, that Pratt products will do everything they are intended to do.

You ought to know about the famous Pratt Veterinary Remedies—one for every animal ailment. They are just what you need. Ask your dealer about them.

Pratt Food Co. of PHILADELPHIA Department 1 PHILADELPHIA, PA.

THE NEW IOWA
CREAM SEPARATOR



The Most Practical
The Best Skimmer
The Best Looker

A practical separator means a separator that will skim milk at any temperature on the farm at anytime of the year and do it well. A separator that is built to last and is convenient for the operator.

The New Iowa is a separator that, you will agree with us, could not be improved. It has a low supply can, runs easy, has a self cleaning bowl, a strong and simple gear entirely enclosed in a dust proof case, a smooth curvical frame, skims hot or cold milk, takes up but little space and is an ornament to any household.

The New Iowa is built in the largest and best equipped cream separator factory in the world.

If you want an illustrated and descriptive catalog which tells you in detail all about how a separator should be built to be practical just drop us a card or send us your dealer's name.

IOWA DAIRY SEPARATOR CO., Bridge St., WATERLOO, IOWA

Choose Your Cream Separator
From The EMPIRE Line

Different Types—Different Prices, with a Full Range of Sizes and Capacities in Each Style.

You don't have to take one man's idea or "hobby" when you come to headquarters. Different styles of separators, different separating methods, have been added to the Empire Line so that you may take your choice, not only of size and capacity, but also of type, design and price.

And back of every separator in the Empire Line is the EMPIRE Guaranty and Reputation—because all are made in the Empire factory, the best equipped separator factory in the world.

No matter which Empire you choose you can't miss it on quality. You'll get the benefit of Empire inventions, Empire designs, Empire construction, materials and "know-how."

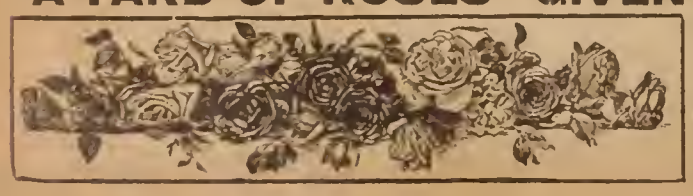
Don't buy the separator that some one wants to push on you—Get the type that suits your requirements and fits your pocketbook. You will find that it is some one of the Empire Line that will

Make The Most Dollars For You

Get the Empire Book and Prices. The fairest and most impartial separator book ever published. It will help you select the separator you want. Write for it today.

Empire Cream Separator Company
Western Branch: Chicago, Ill. Bloomfield, N. J.

"A YARD OF ROSES" GIVEN



"Yard of Roses" is one of the grandest flower pictures ever offered; 1 yard long, on heavy copper-plate paper, in 10 beautiful colors; over 300,000 sold in last 30 days; a handsome ornament for any home that you will always be proud of. To introduce our splendid farm journal which has a half million readers, we mail this grand work of art, all charges paid, to anyone who sends 10c (stamps or silver) for trial subscription to THE VALLEY FARMER. Send at once before they are gone. Address THE VALLEY FARMER PICTURE DEPT., 589 Jackson St., Topeka, Kansas.

TRAINING THE COLT

My method of training the colt has proven very successful to me, and it will perhaps be of value to the readers of Farm and Fireside.

I first get acquainted with the colt when he is not more than one day old. I treat him as though he were a child, and reach his heart through the medium of his stomach, by giving him sugar from the hand. I put one arm in front of his neck and the other behind his hind legs, let him jump and struggle until he becomes tired out, then give him a little sugar and handle him all over from ears to heels.

I teach him that I will not hurt him, but that he need not try to get away. I repeat this once or twice, or until he becomes so strong that holding him is uncertain.

I teach him to lead with the halter when four or five days old. I put a soft, close-fitting halter on his head and a strong half-inch rope around his body just in front of the hips, letting an iron ring in the end of the rope serve as an eye. I place the noose about the rear end of the colt and pass the free end forward between the legs to the hand, thus making an apparatus by means of which I can induce him to come forward. I pull the halter rope and tell him to "come;" then when he settles back, I draw the rope tight about his body. I try again, pulling the halter gently, repeating the exclamation as before, being ready with the surprise rope. By doing this four or five times he learns what is wanted and readily follows.

In teaching the colt to back, I stand close in front of him, pulling the halter back, and say "Back." As he does not understand, he will not obey. I then press my fingers firmly against his breast, and to free himself he will naturally step back. I repeat the same operation, and the youngster soon understands and willingly obeys.

I begin teaching him to move forward at command, or, in other words, to break him to drive, when he is about two weeks old. I put on the halter, check rein, surcingle and lines, passing them from the sides of the halter through loops in the sides of the surcingle. This prevents the colt from turning around. When ready, I speak the words, "Get up." He doesn't go, of course. I then give him a sharp, stinging little cut on the rear end with a light whip. This makes him go. By doing this a few times he learns that the word is followed by the pain, and he goes to avoid the pain. I never use the whip before telling him to go. It is not fair or sensible.

The time for training the colt is when he is young. The lessons he learns at this early age are the ones that will stay with him. It is never best to match strength with him, for once he breaks loose he will always remember it; but if he does not get away in the first few days of his life he will grow to full size believing that he must obey.

Wm. H. Underwood.

PIGS AND CORN

A Pennsylvania "reader" asks me:

"You are no doubt aware that the retail prices for about all commercial feeds are around thirty dollars a ton. At my local market linseed-oil meal is thirty-two dollars a ton, gluten feed thirty dollars and middlings the same. I must buy feed for growing pigs. I have a good supply of skim milk, and usually like to thicken it with equal parts of middlings and corn meal, both of which cost thirty dollars. I can buy ear corn for ninety cents a barrel. Would you advise using it or the thirty-dollar feeds?"

The natural supplement to skim milk for pig feeding is corn, and ear corn at ninety cents a barrel, which I assume is about one hundred and five pounds, is much cheaper than ground corn at thirty dollars a ton.

Middlings and milk make an excellent pig feed, but feeding even good things can cost too much. In fact, at present prices for market pork, almost any feed costs too much; but the hog man must remain in the business, so that he may be in when the turn comes.

Corn on the ear at ninety cents a barrel is but little more than twenty dollars a ton, depending, of course, on the proportion of cob to grain, and my advice would be to feed it thus on the ear in connection with skim milk. For growing pigs there is no advantage in grinding the corn, as it is not desirable to feed it so heavily as when the end is to fatten. The growing pig has enough leisure to digest the whole grain and save the miller's toll.

If the pigs are quite young and the corn is very hard it is sometimes advisable to grind part of the corn and feed with the milk as slop; or perhaps equally as good results may be had from having the whole corn well soaked in water before feeding.

W. F. McSparran.

$29.75 FOR THIS NEW LOW DOWN AMERICAN CREAM SEPARATOR

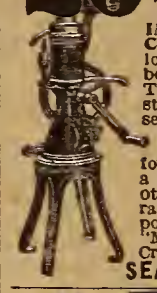


WAIST HIGH

Guaranteed to skim closer than any separator in the world. Sold direct from the factory. We are the oldest exclusive manufacturers of hand separators in America. You save all agents', dealers' and even mail order house profits. We have the most liberal 30 DAYS' TRIAL, freight prepaid offer. Write for it today. Our new low down, waist high separator is the finest, highest quality machine on the market; no other separator compares with it in close skimming, ease of cleaning, easy running, simplicity, strength or quality. Our own (the manufacturer's) long term guarantee protects you on every AMERICAN machine. Don't buy a separator from any agent, dealer, or mail order house; don't make any contract or agreement; don't accept any machine finally until you run a few gallons of milk through our new comfortable waist high AMERICAN. Use it every day for a month and see how it outclasses every other machine. We can ship immediately. Let us send you our new Cream Separator Offer. It's different from any other, just as our new waist high AMERICAN is miles in advance, years ahead of any other separator in the world. Write for our great offer and handsome free catalogue on our new waist high model. Address,

AMERICAN SEPARATOR CO.
Box 1058, Bainbridge, New York.

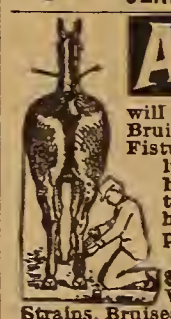
$26.30 SEPARATOR



HAVE YOU SEEN OUR LATEST IMPROVED 1908 MODEL ECONOMY CREAM SEPARATOR? Built on the low down order, easy running, simple beyond comparison. Skims to a trace. The easiest running, closest skimmers, strongest and by far the best cream separators ever made. Prices so low they scream for attention. Look in one of our latest Big Catalogues for cream separators. If you haven't a Big Book borrow your neighbor's; otherwise before buying a cream separator anywhere at any price, on a postal card addressed to us, simply say, "Mail me your latest and greatest Cream Separator Offer. ADDRESS,

SEARS, ROEBUCK & CO., CHICAGO

ABSORBINE



will reduce inflamed, swollen Joints, Bruises, Soft Bunches, Cure Boils, Fistula, or any unhealthy sore quickly; pleasant to use: does not blister under bandage or remove the hair, and you can work the horse. $2.00 per bottle, express prepaid. Book 7-C free.

ABSORBINE, JR., for mankind, $1.00 per bottle. Cures Varicose Veins, Varicocele Hydrocele, Strains, Bruises, stops Pain and Inflammation.

W. F. YOUNG, P. D. F., 23 Monmouth St., Springfield, Mass.

BICKMORE'S GALL CURE



The standard reliable remedy for Galls, Scratches, Cracks, Wire Cuts and all similar sores on animals. Sold by dealers everywhere. Money refunded if it fails. Sample and Bickmore's new horse book mailed for 10 cents. Write today.

Bickmore Gall Cure Co.,
Box 948, Old Town, Maine.

FIX YOUR ROOF

5c Per Square.—We will guarantee to put any old leaky, worn-out, rusty, tin, iron, steel, paper, felt or shingle roof in perfect condition, and keep it in perfect condition for 5c per square per year.

Roof-Fix The Perfect Roof Preserver, makes old, worn-out roofs new. Satisfaction guaranteed or money refunded. Our free roofing book tells all about it. Write for it today.

The Andersen Manufacturing Co., Dept. 19 Elyria, Ohio.

SEPARATORS from 1 to 10 horse, Steam and Gasoline Engines, mounted and Stationary, 1, 2 and 3 H. Tread Powers, 2 to 8 Horse Sweep Powers, Hand and Power Corn Shellers, Feed and Ensilage Cutters, Wood Saws, Steel and Wood Land Rollers.



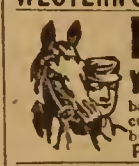
THE MESSINGER MFG. CO., Box 9, Tatamy, Pa.

NEW CENTURY SELF FEED



SHIPPED ON TRIAL. Dept. 4
WESTERN STEEL & WIRE CO. KANSAS CITY KANS.

MAKE YOUR HORSE YOUR FRIEND



If he's a good horse he'll be better. If vicious or has bad habits all can be promptly and permanently cured by my system. Anyone can do it. Postal brings full information free. Write today.

PROF. J. B. BEERY, Pleasant Hill, Ohio.

DEATH TO HEAVES Guaranteed



NEWTON'S Heave, Cough, Distemper and Indigestion Cure. A veterinary Remedy for wind, throat and stomach troubles. *Strong recommends.* $1.00 per can, of dealers, or exp. prepaid.

The Newton Remedy Co.
Toledo, Ohio.

Daggett Calf Weaner

guaranteed to wean or money back.

CALF WEANER CO., Shenandoah, Iowa

Wheels, Freight Paid $8.75



for 4 Buggy Wheels, Steel Tires on. With Rubber Tires, $15.20. 1 mfg. wheels ⅝ to 4 in. tread. Rubber Tire Top Buggies, $41; Harness, $5. Write for catalog. Learn how to buy direct. Repair Wheels, $5.50. Wagon Umbrella FREE. F.F. Boob, Cincinnati, O.

Producing Young Lambs for the Fancy Trade

IN THE production of fancy lambs the man who would achieve the highest financial success must cater to the demands of the people who have money and who are willing to part with it when they find an article that pleases their palates. In no other branch of live-stock feeding can better prices be obtained for what is sold than in supplying this class of people with fancy young lambs.

Quality counts more than quantity in this line of business, and the man who produces lambs of the primest quality that will weigh twenty-five pounds will make double the money that the man will who ships lean lambs that weigh twice as much. In order to command the extreme top price the lamb must be plump, fat, with a good development of lean meat, and juicy and tender.

While many are going into this business, few are meeting with success, and the danger of overstocking the markets with the best lambs is little to be feared, as it is the medium or low grade lambs that sell at prices that discourage the growers. Always try to produce something better than the other people are supplying to the trade. Keep in mind that there is always room at the top for the man who succeeds in meeting the demands of this fancy trade.

To successfully produce fancy lambs requires much study and experience. However, there are a few fundamental principles of the business that will aid the beginner in starting in the business.

A FEW FUNDAMENTAL PRINCIPLES

The man who cares for the flock should be prompt and regular, quick to see and quick to act and take advantage of everything favorable, and to ward off everything unfavorable to the health and growth of the lambs. He must be patient and kind, in fact have a natural love for the business if he makes it a success.

On most farms basement stables that are dry and well lighted make an ideal place in which to keep the breeding ewes. Keep the folds well ventilated and use plenty of straw and litter in the pens to keep them dry. Give them a fair amount of room and keep all ammonia down by the use of land plaster and other kinds of absorbents. Pens twenty by twenty and eight or more feet high are about right to accommodate twenty to thirty ewes, and to this should be built an annex ten by twenty feet for the lambs to go to and eat by themselves. All pens should be well provided with adequate feeding racks and must have an abundant supply of pure, fresh water.

What is wanted most by this trade is an early lamb, one that can be put on the market from the twentieth of December to the first of March. Nearly all of the leading breeds have been tried for getting these early lambs; but the Dorsets are the most highly esteemed, as they can be managed so that they will have lambs at any time of the year. The ewes are excellent milkers and will put a lamb in better condition for early market than any other breed. To get all pure-bred Dorsets would cost a large amount of money, but a man can take a flock of good Merinos and by the use of a pure-bred Dorset ram get a lot of profitable ewes in a few years. Many of the men who have made a success of producing fancy lambs favor a cross-bred Dorset-Merino lamb, for the reason that they are very hardy and are ready for market at an earlier age than those from the pure-bred Dorsets. It is claimed by good authorities, and my experience also bears it out, that a Dorset ram will get more early lambs from a flock of grade ewes than any other breed of ram. After Dorsets as a profitable sheep for this line of business may be named in order Shropshires, Hampshires and Southdowns.

The ewes should be bred so that the lambs will begin to drop about the middle of October. It must not be expected that all of the ewes will get in lamb early, but if a fair proportion of them get in lamb so as to drop their lambs before the first of December, you will be doing very well.

The ewes should be put in the folds before they lamb, thus reducing the risk from loss, and the lambs will do better, for after the grass has been frozen its nutritive value is ruined, and the ewe's digestive system is more liable to become deranged and her milk affected than when she is kept in the fold and fed wholesome food. When housing, put those that are with lamb by themselves, and every time a ewe drops a lamb, sort out the lamb and its mother and put them in another pen until about twenty ewes and their lambs are in this pen, when another pen should be started.

Some form of succulent food is essential to success when raising fancy lambs, and for this purpose we believe there is more value in root crops than in any other, although corn ensilage makes a good part ration. Some prefer to use both. Clover hay is the best forage, and it is surprising how soon the young lambs will learn to eat it. Straw and corn fodder are also used as a part ration, and the ewes seem to relish them when they have been kept in good condition.

THE BEST GRAIN RATION

The grains best adapted to feeding are wheat bran, linseed meal, barley, oats, peas and corn. But the kind of grains fed will depend to some extent upon the kinds of forage that are being fed. When feeding ewes that are giving large amounts of milk it is desirable to feed them a number of times during the day, and not too much at a time; the succulent food is in most instances divided in two rations—one in the morning and the other in the afternoon—and fed at the rate of about six pounds a day to each ewe.

The young lambs must be encouraged to eat by themselves at as early an age as possible, and when they have learned to eat alone they should have all that they can be persuaded to clean up at a time. Linseed meal and cracked corn make a good ration. Barley is also a good grain food for lambs. They will also eat roots, and should have all they will clean up with their other food.

It is unwise to market the lambs alive, for when they are taken from the ewes they will fret so much that they will become feverish and will not dress nearly as good as when first taken from the folds, and would look inferior when hung up.

The way to dress them is to "hog dress" them—that is, to bleed them, skin the hind legs, cutting the feet off attached to the skin, and skin down the belly as far as the brisket, split the carcass down the belly as far as the brisket, take out the bowels, and put the caul into warm water until it is wanted to dress the lamb. Put two sticks in the back in the form of a cross, with edges catching into the edges of the flanks on each side, having them just long enough to spread open as far as possible. The caul may then be spread over the front, going up nicely around each hing leg, with the kidneys pulled through the hole in the caul made for that purpose. After being allowed to become thoroughly cooled, the skinned surface should be wrapped in clean muslin and the whole lamb sewed up in burlap covering, when it will be ready to send to market. The price depends to a large extent upon how it is dressed and the quality of the lamb.

The business of producing these lambs can be carried on with very little extra expense for grain feeds, as everything necessary to produce the best quality of fancy lambs can be produced on almost every dairy farm in the country, and many of the large barns in the East that are now only partially utilized could be made profitable for this line of business.

W. MILTON KELLY.

SEPARATING THE CALF FROM THE COW

On the arrival of the calf there are various ways of treating it. Where milk is urgently in demand the calf is never allowed to suck the cow. It is hurried away from her as soon as dropped, and she never has any frets or regrets about the separation. The milk that is drawn from her is given to the calf in a bucket, and the youngster falls readily to the arrangement. This is not the best way of starting a calf upon its journey, and those who aim at having them superior should not practise it.

Another way is to let the calf remain with the cow, and suck when disposed, for a week or ten days or a fortnight. This sets it going capitally, and if followed up by good feeding when taken from the cow, first-rate specimens will be secured.

It may be thought it would matter little whether the calf had the milk direct from the cow by sucking or given amply from the bucket, but somehow it does make a very considerable difference as a rule, and calves that are started on the cow have fewer upsets and go on more kindly than the artificially suckled. It is not very often that a calf scours in sucking its mother, but however careful, this often occurs on the bucket feeding.

Calves intended as stores need not be left on the cow longer than one, two or three weeks, according to the demand and value of the milk; but calves for veal cannot be left on too long, and if allowed to suck from start to finish, there will be splendid results and quickly reared veal of the finest quality. It is not wise to take calves intended for veal straight away from the cow; neither is it a substantial help to let it remain only one week or so, and if it cannot be left on altogether, try to give it three weeks at least.

W. R. GILBERT.

DE LAVAL SEPARATORS MAKE THE BEST BUTTER

The one purpose of every thinking buyer of a cream separator is the making of the most and the best cream possible, whether for home buttermaking, creamery patronage, or any other use to which cream is put.

It is possible to "claim" almost everything for the various makes of cream separators, but the one indisputable fact that would-be competitors do not even attempt to get around is the unquestionable superiority of the DE LAVAL machines in the making of the best butter.

Year after year, dating back to the invention of the "ALPHA-DISC" system of DE LAVAL bowl construction, butter made by users of DE LAVAL machines has scored highest and won all higher awards in every large and thoroughly representative butter contest throughout the world.

Beginning with the first great annual contest of the NATIONAL BUTTERMAKERS ASSOCIATION in 1892 and ending with the 1908 contest at Minneapolis, March 11th to 13th, not only the HIGHEST but every anywhere near high award has been made to users of DE LAVAL separators and more than nine-tenths of all exhibits scoring above 90% in quality have been DE LAVAL made.

THE ROLL OF HONOR ALL DE LAVAL USERS

The First Prize winners and their scores at every convention of the National Buttermakers Association since its organization in 1892 have been as follows:

1892	Madison, Wis., Louis Brahe, Washington, Iowa . . .	Score 98.
1893	Dubuque, Iowa, C. W. Smith, Colvin's Park, Ill. . . .	Score 97.
1895	Rockford, Ill., F. C. Oltrogge, Tripoli, Iowa	Score 98.
1896	Cedar Rapids, Iowa, Thomas Milton, St. Paul, Minn. .	Score 97.82
1897	Owatonna, Minn., H. N. Miller, Randall, Iowa	Score 98.5
1898	Topeka, Kan., Samuel Haugdahl, New Sweden, Minn. .	Score 98.
1899	Sioux Falls, South Dakota, A. W. McCall, Creston, Iowa	Score 97.
1900	Lincoln, Neb., H. T. Sondergaard, Litchfield, Minn. . .	Score 98.
1901	St. Paul, Minn., E. O. Quenvold, Owatonna, Minn. . .	Score 97.
1902	E. L. Duxbury, Green Bay, Wis.	Score 98.5
1904	St. Louis, Mo., L. S. Taylor, Glenville, Minn.	Score 98.5
1906	Chicago, Ill., A. Carlson, Rush City, Minn.	Score 97.
1907	Chicago, Ill., A. Lindblad, North Branch, Minn. . . .	Score 97.5
1908	J. C. Post, Hector, Minn.	Score 98.

(There were no conventions in 1894, 1903 and 1905.)

In the great annual contest just held 504 of the best buttermakers in the United States competed, with first, second and third, and all important awards, being made to users of DE LAVAL machines.

At each of the two big National Dairy Shows held in Chicago in 1906 and 1907 DE LAVAL butter made a CLEAN SWEEP of all highest prizes, and the general average of all the DE LAVAL made entries was conspicuously higher than the general average of all entries using other makes of separators.

Going back further, DE LAVAL made butter received the GRAND PRIZE at the ST. LOUIS WORLD'S FAIR in 1904 and as well at the PARIS WORLD'S EXPOSITION in 1900.

In the hundreds of important state and country contests the world over for twenty years the superiority of the DE LAVAL separator in the making of fine butter has been conclusively proven.

THE EXPLANATION IS TO BE FOUND IN THE IDEAL DESIGN AND CONSTRUCTION OF THE DE LAVAL SEPARATING BOWLS AND THE THOROUGHLY PRACTICAL CONDITIONS UNDER WHICH DE LAVAL MACHINES MAY BE OPERATED AND USED.

A new 1908 DE LAVAL catalogue—affording an education in this as in other features of separator knowledge—is to be had for the asking.

THE DE LAVAL SEPARATOR CO.

42 E. Madison Street
CHICAGO
1213 & 1215 Filbert Street
PHILADELPHIA
Drumm and Sacramento Sts.
SAN FRANCISCO

General Offices:
74 CORTLANDT STREET,
NEW YORK.

173-177 William Street
MONTREAL
14 and 16 Princess Street
WINNIPEG
107 First Street
PORTLAND, OREG.

SUBSCRIPTION PRICE

One Year (24 numbers) 25 cents
Five Years (120 numbers) $1.00

Entered at the Post Office at Springfield, Ohio, as Second-Class Mail Matter.

Subscriptions and all editorial letters should he sent to the offices at Springfield, Ohio, and letters for the Editor should be marked "Editor."

The date on the address label shows the time to which each subscriber has paid.

Subscribers receive this paper twice a month, which is twice as often as most other National farm journals are issued.

Silver, when sent through the mails, should he carefully wrapped in cloth or strong paper, so as not to wear a hole through the envelope.

When renewing your subscription, do not fail to say it is a **renewal.** If all our subscribers will do this a great deal of trouble will be avoided.

FARM AND FIRESIDE

PUBLISHED BY

THE CROWELL PUBLISHING COMPANY

SPRINGFIELD, OHIO

Branch Offices: 11 East 24th St., New York City.

Tribune Building, Chicago, Ill.

ABOUT ADVERTISING

FARM AND FIRESIDE does not print advertisements generally known as "readers" in its editorial or news columns.

Mention FARM AND FIRESIDE when you write to our advertisers, and we guarantee you fair and square treatment.

Of course we do not undertake to adjust petty differences between subscribers and honest advertisers, but if any advertiser should defraud a subscriber, we stand ready to make good the loss incurred, provided we are notified within thirty days after the transaction.

FARM AND FIRESIDE is published on the 10th and 25th of each month. Copy for advertisements should he received twenty-five days in advance of publication date. $2.00 per agate line for both editions; $1.00 per agate line for the eastern or western edition singly. Eight words to the line, fourteen lines to the inch. Width of columns 2¼ inches, length of columns two hundred lines. 5% discount for cash with order. Three lines is smallest space accepted.

Letters regarding advertising should be sent to the New York address.

There are many agricultural problems that have not as yet been solved. Many theories have been put forth, but theories are of little value until they are proven. Take up some problem in your own community this year and make a careful study of it. Either prove or disprove the theory existing about it, and you will thus add to your own knowledge and be a benefit to your community.

◈

If you have been growing the same hoed crop on a field year after year without adding any manure, you will no doubt find that your yield is gradually decreasing. Each crop has its own way of feeding and selects a particular kind of food for its nourishment, and when planted in the same place year after year the soil gradually becomes unsuited for its production. A rotation of crops with widely differing habits of feeding or the addition of humus in the form of manure corrects the unfavorable effects of continuous cropping.

◈

COST OF FIRE INSURANCE

The increased cost of fire insurance is a subject of practical interest to every business man and farmer who carries a policy. At a recent meeting of the directors of the Trades League of Philadelphia its insurance committee presented a report full of striking figures showing that an excessive burden had been placed on the business community through an unreasonable increase in the expense accounts of fire-insurance companies.

The report says: "Of the nearly $6,000,000 collected in premiums last year in Philadelphia, approximately $2,000,000 went to feed an army of brokers and agents, while less than $2,000,000 was used to pay the losses of the companies. Out of every dollar paid for premiums by our business men practically one third goes for messenger service."

The report shows the steady increase in expense for twenty-five years past. At the beginning of that period the brokerage did not exceed ten per cent, now the average commission paid to the middleman by fire-insurance companies runs from thirty to thirty-five per cent. The report says: "The agents, who are also brokers, manage to work the business for a maximum, so that very few premiums reach the company without at least two profits for the middleman."

◈

A TAX-DODGING CASE

Readers will recall that on several occasions in the past we have published some things about the remarkable tax-dodging achievements of the Union Central Life Insurance Company and the notable lawsuit resulting therefrom.

About twenty-one months ago Judge Hoffheimer rendered a decision in this famous suit that the Union Central owed the treasury of Hamilton County, Ohio, nearly $183,000 for omitted taxes and penalties due for the five years from 1897 and 1901 inclusive. The decision, moreover, covered all essential points in two other suits pending against the company for the recovery of omitted taxes for the years 1902 to 1905 inclusive amounting to considerably more than $3,000,000.

The case was appealed, but in due time the Superior Court handed down a unanimous opinion sustaining Judge Hoffheimer in all points. The case was then appealed to the highest court in the state. April 14, 1908, the Supreme Court of Ohio affirmed the decision of the lower courts.

The decision in this case practically settles the two other suits pending against the Union Central, and ultimately it will have to pay into the treasury of Hamilton County something over $3,360,000.

The Union Central has ample means, but it will be exceedingly interesting to watch the officials and see from what fund, or source, they will take the money to pay the judgments against the company. Will they take it direct from the present policy holders, or will they take it from that surplus fund of several million dollars which has been accumulated from the policy holders in past years, but which is now claimed by the few stockholders?

A Profitable Experiment

The state of New York, through its legislature now in session, is being asked for an appropriation of ten thousand dollars to continue State Institute Work among farmers' wives. Since October last, working with an appropriation of five thousand dollars, several women who are paid moderate salaries have visited twenty-four counties, delivering forty-eight lectures to a total of more than fifteen thousand women from farm homes. The subjects presented all have a vital bearing on the betterment of the moral, physical, social and spiritual condition of farmers' wives and children. Among the topics discussed have been the art of housekeeping, the science of rearing children, home nursing, first aid to the injured, the cheering effects of pretty decorations and flowers, the atmosphere of a home, the bad influence of intoxicants, the selection of proper books for mature and young minds, the making attractive of rural schools, women's place in the world, and other themes.

Splendid results have followed these initial efforts. At Falconer and Webster clubs were recently formed, one with one hundred and five members to meet weekly and discuss how each farmer's wife helping the other can make life easier, yet broader, and bring all possible advantages to the family in the rural home. For more than a decade this campaign has been pursued in Canada, and it was among friends over the Canadian border that Mrs. Helen Wells, of Syracuse, New York, the director of the New York State lecture tours, was first inspired to establish a similar educational movement in her own state. She has been assisted by Mrs. Martha Van Rensselaer and Miss Flora Rose, both of Cornell University; Mrs. Frances Graham, president of the W. C. T. U.; Mrs. Richard Aldrich, and other well-known women.

Although New York is the first state in the Union to make an appropriation for this work, the National Bureau of the Farmers' Institute has appointed a committee of women to work toward making the movement national. Hence, if the efforts of these ladies succeed, we may expect a triumphal and beneficial entry of the women of the farm from ocean to ocean into a clubdom vastly more salutary and uplifting than that which exists in the cities. It is all in keeping with the radical, wonderful changes that have revolutionized through science the methods of the progressive farmer and made it possible for him to draw bigger dividends from his soil and his live stock even while it relieves him of the drudgery of old-time days. So let our Mirandas of the farm become high-brows if they wish, and hie themselves to their clubs.

TO THE QUEEN OF COWS

BUT HONOR TO WHOM HONOR IS DUE

Our esteemed contemporary "Collier's Weekly," tiring of reform and hot crusade, has forsaken for a moment the busy market place, and climbed over into the back pasture, from which safe retreat it soliloquizes as follows:

O cow!

Back to Nature! Hail, O champion nurser of the human race! Hail, O quiet chewer of nutritious cud! Blessed be peace and open air, beasts and sunlight, and especially blessed be this cow; of her we sing. Hail, Pauline; number 48426—if that name you love, O butter champion of the world! Think of giving 104.4 pounds of milk in a single day, and also at a high average of fat!

"I think I could turn and live with animals, they are so
placid and self-contained,
I stand and look at them long and long.
They do not sweat and whine about their condition,
They do not lie awake in the dark and weep for their sins,
They do not make me sick discussing their duty to God,
Not one is dissatisfied, not one is demented with the mania
of owning things,
Not one kneels to another, nor to his kind that lived thousands of years ago,
Not one is respectable or unhappy over the whole earth."

Would the pen of Homer were our own, for we have no taste to celebrate the feats of admirals and presidents, prize fighters and millionaires, and would fain do justice to the cow; for she, by her own unaided might, can support thirty babies on this earth. This journal is too strenuous; often in sadness we believe it to be more strenuous than inspired; higher in purpose than in charm; but yet how dearly it loves to forget the dust and sound of strife; to rest in reverence for such forces as are summoned to the mind by regarding this animal.

Perhaps if the Honorable Editor of "Collier's Weekly" had to get busy milking this cow at 4 A.M., and wound up an average farm day by milking her again at sunset, he would form the opinion that all strenuosity was not confined to the city publisher. Nevertheless, we commend the Honorable Editor's viewpoint.

However, in the words of his versatile Japanese Schoolboy, "we inquire to know" why the Honorable Editor dedicated his Homeric pæan to that noble but erstwhile queen of the dairy world, "Aaggie Cornucopia Pauline," "a useful and distinguished citizen of Massachusetts," when Colantha 4th's Johanna of Wisconsin now milks in her stead, having buttered her way to the throne with the highest records ever made in the world.

Great is Pauline, but greater is Colantha 4th's Johanna with her seven days' record of 35.22 pounds of butter and her year's record of 27,433 pounds of milk, averaging a test of 3.64 per cent, that yielded 998.26 pounds of fat equal to 1164.6 pounds of butter.

Imagine, if you can, the Honorable Editor as a strenuous dairyman, churning over three pounds of butter a day for 365 days, and in the course of the year drawing enough milk from Johanna to fill one hundred barrels.

In the Back Office

A WORD TO THE WISE

A great picture will appear in the May 25th FARM AND FIRESIDE—a picture that will be a beautiful ornament to any FARM AND FIRESIDE home. It is a reproduction of the famous painting "Memories," by the celebrated artist, William Balfour Ker. This handsome painting cost hundreds of dollars, and in the sentiment that it so beautifully illustrates it is entirely different from any other painting that has ever been produced.

This superb painting will be reproduced in FARM AND FIRESIDE on supercalendered stock, 13⅛ by 8⅞ inches.

Be sure that your subscription is paid up, so that you will get this great painting. If you are in any doubt about it, send twenty-five cents and we will extend your subscription one year from the time it expires.

We will also send without extra cost the wonderful $1,000 photograph-500 Roosevelt picture. You will lose them both unless you are paid up, but you will get them both—and FARM AND FIRESIDE, too—if we get your subscription right away. **Don't wait!**

For the Honor of Lobelia

By Izola Forrester

Everson rose from his seat at the first cry of "fire!"

It was one single voice from the second balcony, a frightened, half-choked cry, but it sounded above the orchestra, above Ternina's splendid singing, above everything, and for one instant the whole theater seemed to hold its breath like a startled sentient being.

The stampede came immediately. Everson stood at the end of the first balcony, at the exit to the boxes, and watched the rising. He had seen it once before, the theater-fire scare, over on the other side, at Milan. The fire then had been a mere flurry, but after the stampede they had carried out the dead like trampled cattle.

But these were Americans. There was no wild rush. The retreat was orderly, and somewhat dignified. A faint odor of smoke was detectable now, and the opera was not running smoothly, in spite of the conductor's efforts and Ternina's calmness. Row after row of people rose as one, and moved steadily toward the exits. The top balcony was half cleared, when suddenly there was a burst of lurid flame at the left proscenium wing. It seemed to devour as it shot upward and in a moment the panic fell. From an orderly, well-dressed, grand-opera audience, the mass of people surged and swayed wildly, pushing, trampling, screaming, leaping over seats, beating their way to life and air like frantic animals.

Everson drew in one last full breath, and started for the nearest exit. There was no one he knew in the entire theater, not one human being in whom he felt the slightest interest, except possibly the girl in the second-tier box.

The Girl in the Second-Tier Box

He had noticed her when the party she was with first entered. It was about the middle of the first act. There were six—four women and two men. The others were chatting and laughing, but the girl had taken the front seat, and Everson could see her face as she bent over the box rail. It was evidently an old story to the rest, but he knew at once it was new to her. She showed it in her face, in her eyes, in her enthralled concentration. Once or twice the man next to her leaned forward, and whispered something, but she merely shook her head negatively, and gazed down at the stage.

And Everson was glad, vaguely conscious of a kinship of spirit between himself, an utter stranger in his own home land, and this slim girl in white. Just as the spell of the music had held and welcomed him, so it held her now, and the two stood isolated from the rest, who could laugh and chat while Ternina sang.

The box was empty. It was on the opposite side of the house from where he sat, and he felt relieved to think that she must have escaped the mad rush. The side balcony exits were not unlocked as yet, and he made for the main stairway, crowded, jostled and lifted almost from his feet by the straining mob as the smoke grew denser and more stifling.

And suddenly, at the very head of the staircase, he saw her. There was a great bronze candelabrum on that side, a figure of Orpheus. Facing it was a Pan, its merry, mocking face seeming to leer at the havoc and panic around, and at the lone girlish figure that shrank back against its pedestal. Her face was uplifted, as though she sought some one in the sea of swaying faces that hemmed her in; then, as Everson watched her, she was swept down under foot, almost at his very feet.

Everson Plays Knight Errant

He struck out blindly on each side, and caught her about the waist.

"Hold up a minute more," he gasped hoarsely. "We will get out all right. For the love of God, don't faint."

He lifted her in his arms. She was still conscious, for her arms tightened about his neck, and as the smoke belched out at them from the main entrance at the foot of the stairs he felt her press her face against his shoulder, and shudder. Then all at once some one opened the doors, front and side, and there was a sweet, full rush of fresh night air in their faces, air that brought life to straining lungs and failing hearts, and the black horror was left behind.

Everson felt the girl become a dead weight in his arms, and knew she had fainted. There was no time to question or argue. The street in front of the theater was filled with clanging engines, police patrols, ambulances and a surging, silent mob of people, terrified into silence by the knowledge of the danger beyond the blazing foyer. It was useless to try to find the girl's party. Lifting her bodily like a child, he carried her around the corner where the carriage line had formed, and took the first one offered.

"Drive anywhere away from here quick," was the order he gave, and he laid the limp figure back on the cushions, and sprang in beside her.

The Girl Explains

The cab turned up Broadway toward the park, and Everson sat in silence, watching the still, white face in the corner. Her white opera cloak had fallen back, and he loosened the lace scarf that was draped about her head, and rubbed her ice-cold hands in his. Once he glanced at a clock as they passed it. It was twenty minutes past ten. He had plenty of time to make his train west. And after all, the adventure would probably end in the most commonplace, metropolitan fashion. She would open her eyes, ask where she was, and finally give him directions where he could telephone her husband she was safe. And that would be all. He would take the western express at midnight, and never see her again.

But now, just for a few minutes, she was his. He could look at her, and weave any romance he pleased over the slender, girlish figure. He was the hero knight errant of as thrilling an adventure as any the Old World had ever offered him. And it had come to him on the first night he had spent in New York in over eighteen years.

She drew a deep breath, and opened her eyes. For an instant a flash of horror showed in them, as the memory of the panic swept over her.

"Was any one hurt?" she asked.

"I don't know," answered Everson gravely. "We came away at once."

"I know. I remember falling." She sat up, and drew her cloak about her with a shiver. "I was the last to leave the box. I wanted to see if Ternina and the rest on the stage could get out, and when I reached the staircase they had gone—the Hardwicke party, I mean. I suppose they thought I would follow them, but Mrs. Hardwicke fainted, and both Bob and Mr. Hardwicke had to carry her. Then the people pushed me, and I fell."

"And I picked you up. Where do you want to be taken?"

"Why, I don't know." She looked at him in troubled doubt. "You see, the Hardwickes live out of town, up at Cos Cob on the Sound. I have been stopping at the Rainsforth with Aunt Sally, but we were to leave for the West on the midnight express—twelve something, I think it goes. Aunt Sally was to meet me at the station. I wanted to hear Ternina, you know—but of course you don't know." She looked at him in sudden bewilderment. "Why, I never even saw you before. Isn't it all terrible? What on earth shall I do?"

Two Coincidences

"Telephone to your Aunt Sally, telegraph to Cos Cob, and drive to the station," returned Everson quickly. "It is too far up town to chance catching Aunt Sally before she leaves the Rainsforth, and the Hardwickes will probably go there first to find you. Just leave it all to me, and don't worry."

"And will you take me to the station? We leave from the Grand Central." She bent slightly toward him, her face anxious, and yet full of trust.

Everson laughed as he stopped the cab. "I happen to be leaving New York on the same train to-night myself," he said. "It is either fate, or luck, or coincidental contiguity from mutual necessity."

The girl laughed for the first time, and stepped from the cab as it drew up before the Fragonard. Everson waited while she filled out a telegraph blank at the desk, and then took her to the telephone booths at the end of the corridor. Here he caught accidentally one end of the conversation with Aunt Sally. She was just on the point of leaving the hotel, as the Hardwickes had telephoned that Dorothy was missing.

"Hello, hello, dear; it's Dolly, yes, Dolly. I'm all right. I lost the Hardwickes in the rush from the theater, but I'm not hurt a bit. Shall I meet you at the station? All right. No, I'm not alone. There's a gentleman— What, dear? His name? Why, really, I forgot—" she turned suddenly to Everson with a little puzzled frown on her face. "What is your name, please? Aunt Sally wants to know."

"Tell Aunt Sally it's Donald Everson."

"Hello, hello, Aunt Sally, his name is Donald Everson. Yes, dear, Donald. What? Why, I don't know. I'll ask him, and tell you at the station. He is going with me. Yes, dear. On the same train. No, I never saw him before. Good-by."

There was a bright pink flush on her cheeks as she hung up the receiver, and rose to go.

"Aunt Sally wants to know if you are 'the' Donald Everson," she said slowly as they walked down the vestibule to the entrance.

"I am if she is 'the' Aunt Sally," Everson returned soberly, but with a twinkle in his eyes. "I used to know an Aunt Sally eighteen years ago, and I've had a letter from her on an average of once a month ever since, just to be sure that I was trotting along in the straight and narrow, you know. I used to live in Missouri, in a little place called Lobelia. I think it was the name that killed it those days. I haven't been home for eighteen years. But there was an Aunt Sally, and as I remember, she was the sun, moon and shining stars of Lobelia, all in one."

"Oh, she is still!" exclaimed the girl. "Isn't she the noblest, dearest old darling that ever was? She's everybody's Aunt Sally. Why, she's the fairy godmother of all Lobelia. She has given me a whole year of study here in New York, and next year she is going to send me abroad just for the honor of Lobelia."

His Story

"Don't you go," laughed Everson. "That is just what Aunt Sally did to me. She sent me abroad for the honor of Lobelia just because I could make a few decent water-color studies when I was a youngster, and she thought because I could paint Lobelia's prairies I could conquer Paris. Instead it spoiled me. I never painted any more prairies. I took to black and white, and made a hit doing comic stuff for the weeklies. Lobelia never took any credit for the transformation, and Aunt Sally simply prayed for me as a lost soul. But as a purely business proposition, I imagine, it has eclipsed the water-color prairies. It is a long jump from Lobelia to Paris. Not mere miles or leagues, you understand. Lobelia simply isn't on the map when you hunt for it from the window of a Parisian atelier, but after a long while—about eighteen years—when you get the proper focus on life and its values, you come back home to Lobelia. We had better make straight for the station."

"But you have won all you set out for," insisted the girl, as they seated themselves in the cab once more. "I know you, of course, now. You're 'the' Donald Everson. You sign all your pictures Don with a big black scrawly D. It has been worth while, hasn't it?"

"No, it hasn't altogether," said Everson musingly. "You lose sight of everything else but the battle, and then when it's won, and you can set your own price on your work, it's too late. You don't care somehow whether the world likes it or not, and you wake up to find you have missed everything else in the rainbow chase. Then the only thing left worth while is coming home again to Lobelia. Why, do you know, I haven't thought of anything for three years that I wanted, except a big, old-fashioned graystone house back from the main river road. I used to look up at that house when I was a boy, and passed it when I went fishing. I used to wish it were mine. And now it is mine, and I'm going home to it."

After Eighteen Years

"I know the house." Dorothy leaned toward him eagerly. "It's the old Rutherford house. We live next door, two miles down the river, in the white house with the portico, and the cupola on top—the Blair place, don't you know? I'm Dolly Blair."

Did he know? Everson looked at her. Eighteen years of memory rolled back, and he sat on the rickety white landing below the Blair place, fighting through endless golden hours, and dreaming dreams of Paris, as he pulled bullheads and sunfish out of the muddy river, and told Joe, the little Blair darky, that some day he was going to own that whole river bank. And as he boasted, there would come the sound of carriage wheels down the drive from the big house, and he could catch a glimpse of Mrs. Blair, with Mandy, the nurse, beside her, and a bundle of white lace and soft flannels in Mandy's arms. That was his memory of Dolly Blair, that bundle of white lace and soft flannel.

The cab pulled up at the side entrance to the Grand Central, and Dorothy laid her hand in his for a moment.

"It may have been fate, or luck, or that other thing you said," she said softly, "but I thank you very, very much for what you did for me to-night, and I hope we will be neighbors back in Lobelia."

Save It for Lobelia and for Me

And then Donald Everson lifted the hand to his lips, and kissed it frankly, and gently, in neighborly fashion.

"I hope so, too, Dolly Blair," he answered. "And if I can help it, Aunt Sally shall never break up the coincidental contiguity that fate has brought about to-night. It is better to listen to Ternina than to be Ternina. Are you going to wear that white silk cloak and dress all the way to Missouri?"

"Why, no, of course not," she began wonderingly. "Aunt Sally has my traveling dress. I shall change this on the train."

"Then save it," said Everson, as he helped her from the cab, and looked down at her standing under the bright electric light. "Save it for Lobelia, and for—me."

"I had meant to save it for my début," returned Dorothy, the color deepening in her cheeks and two dimples showing at the corners of her mouth. "Aunt Sally gave it to me. It is old lace that she had in her trousseau."

"This is your début," Everson said fervently. "And you're a howling success, Dolly Blair. Save that dress for your wedding day just for the honor of Lobelia."

And Dorothy said nothing, but with lifted chin and happy eyes she laid her gloved fingers lightly on his arm, and went into the station to meet Aunt Sally.

◈

A Game for Any Occasion

Purchase fifty or sixty penny pictures which represent American statesmen, authors or events in American history or literature. Conceal the name of each picture, then number, and pin about the rooms. Provide each guest with a pencil and a slip of paper. Then comes the mingling with one another and a jolly good time as the guests struggle to recall the names of the familiar-looking pictures. He who guesses correctly the largest number of names may be rewarded with a prize.

Before distributing the pictures the name of each picture and corresponding number have been carefully put down on a slip of paper, which is kept secretly by the hostess until all have finished guessing.

This game can also be successfully played by using popular advertisements cut from the magazines.

THE HOUSEHOLD

Pretty Neck Bows Easily Laundered

THE shops are charging such high prices for their prettiest neckwear novelties this summer that every woman will be glad to know of some dainty new neck bows that she can make herself in the shortest possible time and for very little money. In fact, one which is made from handkerchiefs can be gotten up for twelve cents, and any woman can make it in about fifteen minutes. In addition to their two good features of economy of time and economy of money, the neckwear novelties illustrated on this page have the added virtue of laundering easily. As shown in the illustration, the dotted swiss embroidered bow, by the simple unfastening of the strap, spreads out into two flat pieces, which may be readily laundered.

The necessary materials for the first neck bow are one fourth of a yard of polka-dot swiss, which will cost four cents, and two yards of Valenciennes lace at five cents a yard. Cut a piece of swiss thirteen inches long, seven and one half inches wide at the center, and round the long sides so that the ends will be five and one half inches wide. Hem the ends and run lace along the curved sides. This will finish the under piece shown in the second illustration. Next, cut a piece of swiss six and one half inches square; round the sides with scallops shown in the top piece, and edge with lace. This top piece can be embroidered with a very simple daisy design, made by working a dot solid and making radiating loops about it in a chain stitch. The color of the working cotton should be the same as that of the polka dot. Next, make a strap three and one half inches long, three fourths of an inch wide at one end and one inch wide at the other. Make a point at the wide end and work a buttonhole near the point. Now the tie is ready to be put together. Place the scalloped piece in the center of the large piece and lay the strap on top with the straight end one inch from the bottom of the scalloped piece. Sew the three pieces together by fastening a tiny button on top of the strap. The bow shown in the first illustration is formed by plaiting the larger pieces and buttoning the strap around them. When soiled, the bow can be unbuttoned and laundered as easily as a handkerchief.

The second bow is even more simply made. The only necessary material is a lace-edged or embroidered handkerchief, which can be bought for the small sum of twelve cents. Fold and crease the handkerchief in exact quarters, unfold, and on one of the creases, just an inch from the center, punch a small eyelet. Work around the half of this eyelet that is nearest the center. Then, from the eyelet, cut the handkerchief along the shortest crease, and through the hem. Neatly hem these raw edges. Next, plait the handkerchief to form a jabot, using the narrow pieces made by the cutting, and tie a simple square knot. Be careful to draw this knot straight and firm. This neckwear novelty can be actually made in fifteen minutes and at a cost of only twelve cents!



A Fashionable Embroidered Neck Bow of Dotted Swiss and Lace



Showing the Neck Bow With the Strap Unfastened and the Pieces Ready to be Laundered



Neck Bow and Jabot Made of a Twelve-Cent Handkerchief



This is How the Handkerchief Looks Before the Knot is Tied

Spring-Cleaning Suggestions

SPRING is here again, and to all earnest housewives that means the throwing open of doors and windows and the brightening and freshening of the house for the coming season. Here are a few cleaning suggestions which may be found helpful:

For cleaning paint, which always will get dim in the winter, use soft water and ammonia—two teaspoonfuls of ammonia to one gallon of water. Wipe dry, after which polish with a mixture of two parts of linseed oil and three parts of gasoline or vinegar. It is best never to use soap on painted woodwork.

For cane-seated chairs that have become darkened, use a solution of oxalic acid and water. A teaspoonful of the acid to a quart of water is about the right proportion. Scrub hard with a stiff brush, rinse immediately with clear water, to prevent the action of the acid on the cane, and the color will be restored and the seat tightened.

To clean upholstered furniture, cover the material with a towel and whip with a rattan. Then brush the upholstered parts very hard, and wipe them quickly with a cloth wrung dry out of clear hot water. Follow this with a clean white flannel dipped in alcohol. As soon as the flannel shows dirt, wash it clean in tepid water; otherwise, the alcohol will dissolve the dirt and deposit it in streaks upon the surface of the fabric. Clear alcohol lightly used, with the flannel wrung almost dry, will not mark the most delicate fabrics.

Household Helps

OPEN the cellar doors and windows night and morning, but keep them closed between nine and five. Warm, moist air entering a cool cellar makes it damp by condensation, as the dew that quickly gathers on cold surfaces, such as the iron work of the furnace, plainly shows.

To make a satisfactory and lasting soap shaker, pierce a number of holes in the bottom of an ordinary baking-powder box, toss in any fragments of soap you may have, and when ready to wash the dishes put the box in your dish pan, pour the hot water through, and you will have a fine soapsuds. When not in use keep a saucer or small plate under the shaker, as a little moisture will drip through. Save even the smallest pieces of soap of all kinds for this use.

Here is a recipe for renovating linoleum: Melt a little ordinary glue in a pint of water. At night have the linoleum clean and dry, go over it with a flannel cloth dipped in the glue water, and by morning it will have a fine, hard gloss and look exactly like new.

If new tinware is rubbed over with fresh lard, then thoroughly heated in the oven before it is used, it will never rust afterward, no matter how much it is put into water. If the tea pot or coffee pot is discolored on the inside, boil it for a short time in a strong solution of borax, and all its brightness will return.

Brown paper moistened in vinegar will polish tins.

About the House

HERE is a very excellent and easily prepared recipe for cleaning furniture: Fill a quart bottle nearly full of warm water, add to it a tablespoonful of alcohol and a tablespoonful of olive oil. Shake well, and use plentifully when applying to furniture. Rub thoroughly with dry flannel after the first application.

When you have tried the scissors, knives and various other handy but useless articles in a vain endeavor to keep the windows from rattling, get the handy man to cut away one prong of the ordinary clothes pin and whittle the other down to a thin wedge, and you will find you have the best window stopper in the world.

The woman who fifty years ago used to hoard every old newspaper for her pantry shelves, and was happy when she had enough to go around, for newspapers were not so plentiful as they are now, would hardly recognize the gaily bedecked pantry and cupboard shelves of to-day.

The white and colored papers scalloped and perforated in various designs have had their day. The latest covering and valance for shelves are made of heavy drill with a buttonhole edge, above which is a varied assortment of legends relating more or less to culinary affairs. These coverings are about a yard long and are found in the shops ready stamped for working. Wash cotton of any color is suitable for the purpose. Here are a few of the legends:

"On these dishes we do bake pies like mother used to make."

"Bring good appetite when dining."

"Dishes clean and glasses shining."

Making Old Feathers Look New

IN RENOVATING feathers, the first thing to do is to thoroughly cleanse them. If the plumes are in fairly good condition, this may be done by simply holding over the spout of a kettle of boiling water, allowing the steam to penetrate to every part. But if they are old and stringy, they will have to be washed in plenty of warm soapy water. Rub very gently, always toward the tip, being careful not to break the quill or flues. After washing, rinse thoroughly, then starch them with raw starch, using about four tablespoonfuls to a pint of water. Let them stand in this for a few minutes, until every flue is full of starch, then squeeze them in a dry cloth, to get out the water, leaving the starch in; hang up to dry in a draft, and when thoroughly dry, shake vigorously out of the window, beating them against the hand, until every bit of the dry starch is gone. The result will be surprising, as the feathers will be twice as full as they were before the starch raised all the fluffy part of the flues.

Black feathers may be treated in the same way as white. If any of the starch still shows along the stem after the shaking, brush it off with a whisk broom, and by the time the feather is curled the last trace of white will have disappeared.

Before curling, hold over the spout of a kettle half full of boiling water until the flues droop in the natural way, then take a feather-curling knife or a very dull fruit knife, and holding the feather firmly along the stem with the left hand, curl by drawing as many of the flues as possible at one time between the thumb and knife. Curl only the ends of the flues, letting the rest droop from the stem. Make the tip full by giving a pinch in close to the stem, so as to throw a few of the curled flues up on the top. A very old feather can be curled like this all the way down the stem.

Some Spring Recipes Worth Trying

SPINACH SALAD—Wash and pick over carefully one peck of spinach, and cook it in a very little boiling water until tender. Drain it very dry, and chop it as fine as possible. Season well with salt, pepper, lemon juice and melted butter, stirring it over the fire until the latter is well mixed through it. Butter some small molds well, and press the spinach firmly into them, leaving a hollow space in the center of each about the size of an egg cup. Chop about one half pound of cooked lamb very fine, and mix with it the finely chopped whites and the mashed yolks of two hard-boiled eggs; season well with salt and pepper, and add a little melted butter. Press the mixture into the spinach nests, packing it firmly, and set away until very cold. To serve, turn out carefully on tender lettuce leaves, and pass mayonnaise dressing with the salad.

SPRING SALAD—Wash thoroughly two bunches each of young radishes and spring onions; trim them off carefully, slice them thin, and sprinkle with salt. Let them stand in a cold place for thirty minutes. Wash off the salt, and let drain thoroughly. Line a salad bowl with tender lettuce, put in the onions and radishes, and pour over a sour cream dressing. For this, beat three fourths of a cupful of sour cream until smooth, add vinegar to make as sour as desired, and season with white pepper.

PIE-PLANT SHORTCAKE—Make a very short biscuit dough, and roll out into two thin cakes; butter the top of one and lay the other upon it, and bake until done; then separate, and put stewed and sweetened pie plant between and on top. Or use the following filling: Two cupfuls of stewed and sweetened pie plant and one cupful of either figs or dates chopped and stewed. Cook together for a few minutes, then spread on the cake while both are hot. Eat with whipped and sweetened cream.

PIE-PLANT COBBLER—Half fill a shallow granite basin with pie plant cut small, and pour over a batter made of one egg, one tablespoonful of butter, one cupful of milk, a pinch of salt, one teaspoonful of baking powder and flour to make a thick batter. Bake until brown, then turn, fruit side up, on a plate, cover with one cupful of sugar, grate on nutmeg, dot plentifully with butter, and set in the oven until the sugar and butter are melted. Serve with cream.



Baby Cap Stamped on Lawn, With Lawn Ties, 30 Cents (Six-Months and One-Year Sizes)

EVEN the busy young mother can always find time to embroider one or two little things for the wardrobe of the dearest baby in the whole wide world. Here are a few useful and pretty novelties which will take but little time to make.

The little Dutch cap comes in a six-months and one-year size. The dainty flower design is carried out in French embroidery. The front piece is gathered and fitted to a circular crown lining, and after these have been seamed together, the embroidered crown is sewed in place. Cut the stamped pattern on the lines indicated. Enough lawn is allowed so that if a larger face size is desired a few scallops may be added.

To make the embroidered two-piece bib fine India lawn is the material used. This little bib is, of course, a dress-up affair, and under it a protection bib should be worn. The scallops and the flower design are first worked. The upper piece is then basted in place on the under piece, and the two are buttonholed together around the neck. Use two threads for buttonholing and one thread for French embroidery. Under the scallops of the under piece a frill of lace is used.

One of the chief recommendations for the little baby shoes here pictured is that they fit the baby's foot perfectly. They are made of white felt embroidered with pink silk and fastened with tiny brass buttons. They should be buttoned quite tight, as the felt will then stretch a little and take the shape of the ankle.

In the stamped pattern each part of the shoe is numbered, and if one carefully follows these directions there will not be the slightest difficulty in putting the different parts together.

Directions: Cut out on the stamped lines. The front, which is numbered 1, is



Baby Shoes Stamped on White Felt, 35 Cents. Silk and Buttons, 10 Cents

fastened to the piece numbered 2, the two places marked X on No. 1 being placed on those marked X on No. 2. The edge of No. 1 is cut in points and the position of the lower point on No. 1 is indicated on No. 2, and the other points are crowded in between these two indications. Sew the straight lines of the heel together with over-and-over stitch; the curved piece comes on the outside, and is there caught in place. The shaped pieces on the back and front are feather stitched on after the shoe is sewed together. Use one thread of silk for the flowers, two for the feather stitching.

The oblong is one of the newest shapes in baby-carriage pillows. This one is made of fine India lawn, with ruffles of the same edged with lace. Notice that the ruffle is made in four parts, each part trimmed with the lace. This gives a much better effect than the plain straight ruffle. The back of the pillow is cut in two pieces, which are buttoned together. This makes it a very easy matter to slip the pillow in and out of the covering. Pink or blue slips used under the white lawn

Embroidered Things for Baby

By Evelyn Parsons

show off the embroidery to its best advantage and give it an added touch of daintiness.

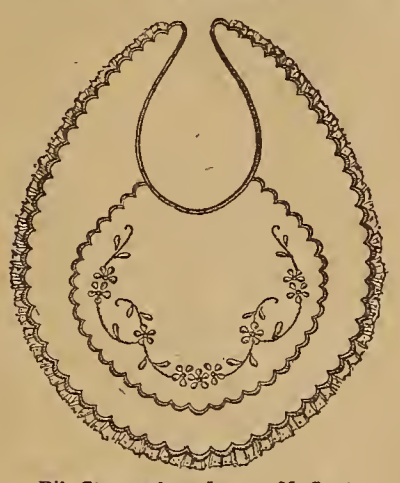
The material and the stamped designs for these dainty embroidered novelties, as well as embroidery cotton at ten cents a ball for working the patterns, can be purchased from the Embroidery Department of FARM AND FIRESIDE.

◈

For Baby's First Birthday

BABY'S first birthday is always, of course, a great event. The mother in moderate circumstances who wishes to celebrate the occasion may find a suggestion in the following idea for an afternoon's good time. To those of her friends who had babies she wrote notes, asking the baby to spend the afternoon on a certain date, and adding, "You may bring your mother with you."

To these notes she signed her own baby's name. The house was decorated with flowers, most of them home grown, and the table had a little arch of flowers



Bib Stamped on Lawn, 25 Cents

above the big birthday cake. At each place was a card with a penny photograph of the baby who gave the party pasted in one corner and banded with gold paint. The name of the baby and the date of his birth were lettered in gold beneath. The name of the guest whose place at the table the card indicated was lettered in the center of the card. Little bunches of flowers accompanied these cards. The refreshments were very simple. Nut and lettuce sandwiches, olives, ice cream, cake and coffee were all that were attempted, and all were dishes that could be prepared beforehand. Each guest was given a pencil and paper, and a very amusing guessing contest was then played. In a convenient doorway a curtain was hung, and one at a time each baby's hand was put through a hole in this curtain and the mothers requested to identify it. The prize was a baby pillow of white lawn over pink with a hemstitched ruffle. This sort of a party is especially nice for mothers who have children so young that they cannot be left at home.

◈

Baby's Bassinet

A WICKER bassinet for the baby is a bit more practical and costs but a few cents more than the clothes hamper often used to serve the same purpose. The strongest point in its favor is the headpiece, which is so necessary to shield the baby's eyes. And it is easy in the hot weather to throw a piece of mosquito netting over the whole bassinet, as this same headpiece keeps the muslin from coming into contact with baby's face.



Carriage Pillow Stamped on White Lawn, With Ruffle, 50 Cents

When Ordering Embroidery Patterns

IMPORTANT NOTICE—Remit by money order, currency or stamps. To the amount of any check drawn on a bank not in New York City, ten cents must be added for exchange.

We cannot be responsible for packages sent through the mail, unless the necessary stamps or money for registration are added.

Note—We ask you if possible to send postal money orders made payable to Farm and Fireside in preference to stamps.

Address "Embroidery Department," Farm and Fireside, Springfield, Ohio.

Singer Talks

5. Important Points of Sewing Machine Construction

¶ Did you ever consider what the thousandth of an inch might mean in the adjustment of the needle-stroke on a sewing machine?

¶ Or how many little invisible parts there are which may run well for a month or so in a carelessly-made machine, and then by going wrong render it utterly useless?

¶ For the perfect construction and thorough testing of these vital details you must depend upon the honor and reputation of the maker.

¶ The makers of the Singer Sewing Machine enjoy a reputation vouched for by millions of Singer users all over the world.

¶ These millions of Singer users have *proved* the perfection of the Singer by years of steady sewing.

¶ The Singer Sewing Machine is built like a watch and runs like one.

Sold only by
Singer Sewing Machine Company
If a Singer Store or Singer Salesman is not available, address us at Room 1130 Singer Building, New York City

Three generations of Simpsons have made
SIMPSON
EDDYSTONE PRINTS
Founded 1842

Ask your dealer for
Simpson-Eddystone
Silver Greys
The famous old "Simpson" Prints made only in Eddystone.
Nothing more attractive than these stylish patterns. For 65 years the standard calicoes. Cloth that wears well. Color that won't fade.
Some designs in a new silk finish.
If your dealer hasn't Simpson-Eddystone Prints write us his name. We'll help him supply you. Decline substitutes and imitations.
The Eddystone Mfg. Co., Philadelphia
Established by Wm. Simpson, Sr.



Love Lightens Labor

A good wife rose from her bed one morn,
And thought, with a nervous dread,
Of the piles of clothes to be washed, and more
Than a dozen mouths to be fed.

"There's the meals to get for the men in the field,
And the children to fix away
To school, and the milk to be skimmed and churned,
And all to be done this day."

It had rained in the night, and all the wood
Was wet as it could be;
There were puddings and pies to bake, besides
A loaf of cake for tea.

And the day was hot, and her aching head
Throbbed wearily as she said,
"If *maidens* but knew what *good wives* know
They would not be in haste to *wed!*"

"Jennie, what do you think I told Ben Brown?"
Called the farmer from the well:
And a flush crept up to his bronzed brow,
And his eyes half-bashfully fell.

"It was this," he said, and coming near,
He smiled, and stooping down,
Kissed her cheek. "'Twas this: that you were the best
And the *dearest* wife in town!"

The farmer went back to the field, and the wife,
In a smiling, absent way,
Sang snatches of tender little songs
She'd not sung for many a day.

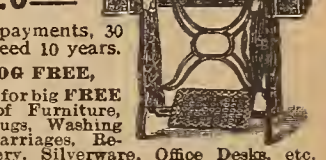
And the pain in her head was gone, and the clothes
Were white as the foam of the sea;
Her bread was light, and her butter was sweet
And as golden as it could be.

"Just think," the children all called in a breath,
"Tom Wood has run off to sea!
He wouldn't, I know, if he'd only had
As happy a home as we."

The night came down, and the good wife smiled
To herself as she softly said,
"'Tis so sweet to labor for those we love—
It's not strange that *maids will wed!*"

—Anonymous.

CREDIT GIVEN TO EVERYBODY
SEWING MACHINES
Drop Head, Ball Bearing, Highest Grade.
10.95 TO 26.75
Small monthly payments, 30 days trial, guaranteed 10 years.
NEW CATALOG FREE,
ask for it. Also ask for big FREE Official Catalog of Furniture, Stoves, Carpets, Rugs, Washing Machines, Baby Carriages, Refrigerators, Crockery, Silverware, Office Desks, etc.
STRAUS & SCHRAM, 1086 65th Street, CHICAGO



THIS DOOR 69¢
FIND OUT WHAT your home dealer gets for 2x6-foot 4-panel SOLID YELLOW PINE DOORS.
Before you build get our prices on doors, sash, windows, mouldings, roofing, etc. These important things you will have to use in building. You will find we will save you about one-half in cost. We will gladly furnish, without one penny's cost, such architect's complete plans and specifications as an architect would charge you at least $100.00 for. It will help your carpenter immensely and make an ordinary $1,000.00 house cost about $700.00. For full particulars look under the head of "Mill Work" in our Big Catalogue. If you haven't one, borrow your neighbor's; otherwise in a letter to us say, "Send me your Great Mill Work Offer."
Address, SEARS, ROEBUCK & CO., CHICAGO

DAISY FLY KILLER placed anywhere, attracts and kills all flies. Neat, clean, ornamental, convenient, cheap. Lasts all season. Absolutely harmless, cannot spill or tip over, will not soil or injure anything. Guaranteed effective. Of all dealers or sent prepaid for 20 cents.
HAROLD SOMERS
149 DeKalb Ave.
Brooklyn, N. Y.



We Will Give A RURAL MAIL BOX, the best and handsomest Galvanized Steel Rural Mail Box made, to the first person sending address of party canvassing for petitions for new Rural Route. Write today.
KENTUCKY STAMPING CO., DEPT. 130, LOUISVILLE, KY.

PRIZE WINNERS FOR MARCH

In the Merchandise Payment Department

The following are the **Cash Prize** winners for the month of March. They are the sixty-six FARM AND FIRESIDE representatives who sent us the most subscriptions during that month. Notice how few points it took to get a prize—even the big prizes! If you hustle this month you can easily win a big cash prize for **May.** All the **Cash Prizes** are entirely **in addition** to the handsome and liberal Merchandise Payments.

	NAME	STATE	POINTS
1	Mrs. Mamie Tuncil	Colorado	49
2	Mrs. Catherine Gearhart	Illinois	30
3	Hugh Franklin	Pennsylvania	28
4	Geo. N. Hackett	New York	28
5	Alice Atkinson	Michigan	27
6	E. R. Brandon	Tennessee	25
7	Mrs. Zina Melick	Ohio	25
8	Mrs. C. M. Cole	Ohio	25
9	Mrs. Edward Chilson	Ohio	25
10	E. G. Hamilton	N. Carolina	25
11	Moses E. Lowd	N. Hampshire	25
12	Lorene Steely	Missouri	25
13	Mrs. Bell Livesay	Missonri	25
14	Mrs. M. C. Crawford	Mississippi	25
15	Mary E. Marshall	Iowa	25
16	Mrs. D. M. Stratton	Illinois	25
17	Alva E Kihler	Illinois	25
18	Harlan Grove	Illinois	22
19	Paul Knierman	Pennsylvania	22
20	Mrs. Wm. Bacon	New York	21
21	Jos. E. Lecater	Delaware	20
22	Edward Fauhel	New York	20
23	Mrs. W. G. Maffett	Virginia	20
24	Esther L. Sime	Mass	19
25	Maude L. Matson	Michigan	19
26	B. D. Wood	New York	19
27	Oma E. Smith	N. Carolina	19
28	Mary E. Clark	Ohio	19
29	Orville Schell	Ohio	19
30	Helen Jones	Pennsylvania	19
31	Honore G. Davis	Nebraska	18
32	Harry Weisehurn	Ohio	18
33	L. J. Galland	Washington	18
34	Mrs. L. S. Harbison	Washington	18
35	Lena Mathias	Indiana	17
36	H. C. Bergfeld	Missouri	17
37	Harry Prescott	N. Hampshire	17
38	J. J. Colflesh	Ohio	17
39	A. J. Hostetter	Ohio	17
40	Raymond D. McIntire	Ohio	17
41	Mrs. H. W. Bell	Ohio	16
42	Mrs. Emma Withers	Virginia	16
43	Donald McKinnon	Washington	16
44	Wm. Hannah	Indiana	15
45	Edwin Shirk	Iowa	15
46	Claude Schrantz	Ohio	15
47	C. D. Hosley	Idaho	14
48	Ethel G. Shires	Iowa	14
49	J. W. Karrasch	Missouri	14
50	Leland Ehersole	Ohio	14
51	R. P. Allum	Pennsylvania	14
52	John Mack	Pennsylvania	14
53	Paul E. Sausman	Pennsylvania	14
54	Mrs. R. H. Wormath	Tennessee	14
55	Mrs. Walter R. Waddell	Ohio	13
56	J. A. Palmer	Pennsylvania	13
57	Laura Laurence	Louisiana	12
58	Hrs. Howard G. Butcher	Michigan	12
59	Clifford C. Ewing	New Jersey	12
60	Leslie A. Duvall	Ohio	12
61	Karl Hosafros	Ohio	12
62	Irvin Klinect	Ohio	12
63	Mrs. J. C. Beiter	Pennsylvania	12
64	Viva McNutt	Pennsylvania	12
65	I. O. Kay	S. Carolina	12
66	Hazel Fohr	Wisconsin	12

If you don't know all about the Merchandise Payment Department and the Cash Prizes, write for our big, illustrated catalogue and full particulars. They will be sent immediately without cost to you.

MERCHANDISE PAYMENT DEPARTMENT
Farm and Fireside **Springfield, Ohio**

MILLION CLUB STAR LIST

of Farm and Fireside Representatives

This list is complete up to April 15th. Each of the representatives named below has won the special Million Club badge and obtained their own subscription free, in addition to many other valuable rewards.

Moses E. Lowd, New Hampshire.
Mrs. R. H. Wormath, Tennessee.
Claude Schrantz, Ohio
E. R. Brandon, Tennessee.
E. G. Hamilton, North Carolina.
Mrs. H. W. Bell, Ohio.
Mrs. W. R. Waddell, Ohio.
I. O. Kay, South Carolina.
J. A. Palmer, Pennsylvania.
Mrs. Mamie Tuncil, Colorado.
Karl Hosafros, Ohio.
Hugh Franklin, Pennsylvania.
R. D. McIntire, Ohio.
Edward Fauhel, New York.
L. J. Galland, Washington.
Geo. N. Hackett, New York.
Donald McKinnon, Washington.
Orville Shell, Ohio.
Harry Weisehurn, Ohio.
Sara L. Ashby, New York.
Catharine Gearhart, Illinois.
Mary E. Clark, Ohio.
Jos. E. Lecater, Delaware.
Laura Laurence, Louisiana.
Alva E. Kihler, Illinois.
Leland Ehersole, Ohio.
Helen Jones, Pennsylvania.
Mrs. W. G. Maffett, Virginia.
H. C. Bergfeld, Missouri.
Mrs. L. S. Harbison, Washington.
Leslie A. Duvall, Ohio.
Wm. Hannah, Indiana.
Irvin Klinect, Ohio.
Lena Mathias, Indiana.
J. J. Colflesh, Ohio.
Edwin Shirk, Iowa.
Mrs. H. G. Butcher, Michigan.
Alice Atkinson, Michigan.
Maude L. Matson, Michigan.
Paul Knierman Pennsylvania.
Mrs. Zina Melick, Ohio.
Mrs. J. C. Beiter, Pennsylvania.
Hazel Fohr, Wisconsin.
Mrs. C. M. Cole, Ohio.
R. P. Allum, Pennsylvania.
Paul E. Sausman, Pennsylvania.
Mrs. Edward Chilson, Ohio.
Lorene Steely, Missouri.
Oma E. Smith, North Carolina.
Clifford C. Ewing, New Jersey.
Mrs. M. C. Crawford, Mississippi.
C. D. Hosley, Idaho.
John Mack, Pennsylvania.
Viva McNutt, Pennsylvania.
Mrs. Wm. Bacon, New York.
B. D. Wood, New York.
Harlan Grove, Illinois.
A. J. Hostetter, Ohio.
Mrs. Bell Livesay, Missouri.
Honore G. Davis, Nebraska.
Julian Smith, Indiana.
Ethel G. Shires, Iowa.
Harry Prescott, New Hampshire.
Mrs. Fannie Withers, Virginia.
Mrs. Geo. Babcock, Michigan.
Luna Richey Illinois.
Henry Bolhouse, South Dakota.
Mrs. D. M. Stratton, Illinois.
Ada A. Smeak, Maryland.
Elder Smith, Pennsylvania.
Mrs. Dora McCullough, Tennessee.
Jas. McCormick, Ohio.

If you want to know all about the Million Club and how you can get on the Star List, address

MERCHANDISE PAYMENT DEPARTMENT
Farm and Fireside **Springfield, Ohio**

Miss Gould's Fashion Page



The Japanese Fob

NOWADAYS there are just as many fads in jewelry as there are in fashions, and something new seems always to be the crying need. Conventional ideas in jewelry are no longer the vogue. It is the unusual and the antique that is in demand. It is a very happy fact that many of the jewelry novelties this spring come in attractive imitations, which are quite within the limit of every woman's purse.

Japanese good-luck jewelry is having a decided vogue of its own right now, and very unusual and effective are the designs in which it is shown. The good-luck fob illustrated on this page is composed of squares of enamel linked together, each square bearing a Japanese symbol which stands for good luck. The fob costs but seventy-five cents, and is a pretty change from the conventional ribbon fob with only a monogram as its decoration.

Of course, no woman can ever have too many pins for fastening the back of her collar. Something very new for this purpose is the Japanese clover pin in dark blue enamel and gilt, each petal having its own good-luck inscription engraved upon it. This little lucky pin can be bought for twenty-five cents. The original is just a trifle smaller than the illustration.



The Lucky-Clover Collar Pin

IN PLANNING your summer clothes, of course you will need one very nice dress, something suitable for church, and afternoon and evening wear, too. The gown shown in the center illustration on this page is an extremely fashionable model. It would look well developed in silk, voile or very light-weight panama cloth. The skirt is a modified copy of the Paquin model, which created such a sensation in Paris last summer. It just suggests the wrinkles in front by very small folds. The waist shows the combination of two materials. Lace and voile would look very charming together, or the yoke and sleeves may be of net or silk if the panama cloth or voile were used for the rest of the dress. If you have any lace on hand and are rather tired of it, it is a good idea to have it dyed to match the color of your material. Ribbon makes a pretty trimming and it can be given an original touch by having sewed to it here and there a little frill of lace with a satin-covered button center made to look like a rosette. The woman who needs a separate waist, and wishes, perhaps, to remodel an old one, will find the waist pattern No. 1130 a very good one to follow.

IF THE shops are any criterion, the big lace-frilled pincushion has a decided rival to-day in little pincushions noted for their novelty. The woman who hasn't time to make a pincushion for herself may be glad to hear about an odd little cushion in the form of a stool, which she can buy for just nine cents and not a penny more. It has a fancy velvet top, into which the pins are stuck, and gracefully shaped little gilt legs. It's novel enough to be liked for that reason only, and, in addition, it takes up so little room that it is most convenient.



Stool Pincushion With Velvet Top

SOUTACHE braid, both in silk and linen, is one of the most fashionable trimmings of the summer. Very thin fabrics are even trimmed with the silk soutache. For instance, it is considered quite the smart thing to have a waist of chiffon cloth braided in soutache the same color or just a shade darker. The linen dresses and piqués and chambrays are also elaborately trimmed with linen soutache, and the designs are both simple and intricate.

Miss Gould will gladly send a personal letter to any subscriber of Farm and Fireside who wishes to know where the jewelry novelties and the little pincushion illustrated on this page may be purchased. She cannot, however, buy any of these articles for them, but will promptly send the name of the shop where they may be obtained, provided a stamped and self-addressed envelope is sent, which should be directed to Miss Gould, care of Farm and Fireside, 11 East 24th Street, New York City.



No. 1130—Waist With Round Yoke

Sizes 32, 34, 36 and 38 inch bust measnres.

No. 1131—Modified Paquin Skirt

Sizes 22, 24, 26 and 28 inch waist measures.



No. 1129—Box-Plaited Waist

Pattern cut for 32, 34, 36 and 38 inch bust measures. Quantity of material required for medium size, or 36 inch bust, three and three fourths yards of twenty-two-inch material, or two and three fourths yards of thirty-six-inch material.



Hat With Lace Bow and Rose

I APPRECIATE just how easy it is for the woman who has but little money to spend on her clothes, to feel that there is no use in trying to keep up with the fashions. She is apt to reason that without money one never can be stylishly dressed, and she is apt to settle down in her old accustomed rut, with the careless plea to herself of, "Oh, that will do well enough for me!"

Now, good taste in dress counts for more than money, for it is the basis of effectiveness. Often the turn of the hand can accomplish what money cannot purchase. Knack and a clever needle can many times outdo the fashions of Paris.

BE SURE the finishing touch is a becoming one before you make it your own. In a way it should be the outward expression of your individual taste. Of course, you know without my telling you that the hat plays a most important part in the tout ensemble of your costume. If it is extreme in style it is apt to so completely focus the attention that one forgets entirely the rest of the gown, and the same thing holds good if it is unbecoming or out of date in its shape or trimming.

Plan your hat so that it will seem a part of you. Study to have it harmonize with your gown not only in coloring, but in type.

If you want to give this spring a new touch to a hat you have worn for some time, try a big transparent bow of net or lace—a bow with many loops. Let the loops spread out wide or group them so they will give height to the hat, just according to your individual requirement.

Now for the finishing touch. Use a big rose, placing it back of the loops, so its color will show through.

SUIT your collar to your neck and it's pretty sure to be becoming. This is not a very hard thing to do this spring, for collars in many styles are the fashion. If you happen to have a short neck and a fat face, try one of the broad, turnover collars which come in stiff linen or soft embroidered lawn or mull. With such a collar a Windsor tie is always in good taste.

For the girl with a long neck there are very high transparent collars of lace or chiffon specially high at the sides. I don't need to say that the girl with the short neck should avoid these collars. If she wears them with the impression that they give her an air of style, because they are the prevailing fashion, she needs only a look in her mirror to be convinced that she looks ridiculous instead of stylish.

THE woman who has worn a princess dress knows by experience how difficult a matter it is to have it fit as it should over the ordinary corset cover and petticoat. The dividing line between the corset cover and the petticoat is apt to proclaim its existence by wrinkles in the princess dress, and the fulness in the petticoat is pretty sure to create a ridge which is hard to disguise. The fact is, if a princess gown is to be worn, one should select appropriate undergarments to wear with it, and nothing is better for this purpose than a princess slip. In this style of garment there is no division at the belt to be considered and no fulness at the back of the petticoat to be disposed of.

Sometimes these princess slips are made without sleeves, and this is usually the case when they are to be worn under one-piece lingerie gowns. Then the armseyes are cut out one inch all around, and finished with lace frills. When the outside dress is very thin it is well to close the slip with hooks and eyes, which are invisible, instead of buttons and buttonholes. Or if the buttons and buttonholes are more convenient, they should be hidden in a fly attached to the right side.

The slip may be made of lawn in any of the new pretty shades, or of any of the materials which imitate silk so perfectly in their glossy sheen, and yet which can be bought nowadays for so little money.

If the slip is too large at the waist or around the hips, do not take in all of the extra fulness at one seam, but take in a trifle at each seam, and thus preserve the symmetrical lines and curves of the original pattern.

Practical Patterns for All Occasions



No. 1139

No. 1139

No. 1139—Guimpe With or Without Peplum

Pattern cut for 32, 34, 36 and 38 inch bust measures. Quantity of material required for medium size, or 36 inch bust, four and three fourths yards of twenty-two-inch material, or three and one half yards of thirty-six-inch material.





No. 1039

No. 1039—Dressing Sacque With Collar and Sleeves in Two Styles

Sizes 32, 34, 36, 38 and 40 inch bust measures.



No. 887—Misses' Waist With Bib Jumper

Sizes 12, 14 and 16 years.

No. 888—Misses' Five-Gored Skirt

Sizes 12, 14 and 16 years.



No. 1142 No. 939

No. 1142—Shirt Waist With Shoulder Plaits

Pattern cut for 34, 36, 38 and 40 inch bust measures. Quantity of material required for medium size, or 36 inch bust, four yards of twenty-two-inch material, or two and three fourths yards of thirty-six-inch material, with one half yard of contrasting material for trimming.

No. 939—Thirteen-Gored Skirt

Pattern cut for 24, 26, 28 and 30 inch waist measures. Length of skirt, 40 inches. Quantity of material required for medium size, or 26 inch waist, eight and three fourths yards of twenty-two-inch material, or six and one half yards of thirty-six-inch material.

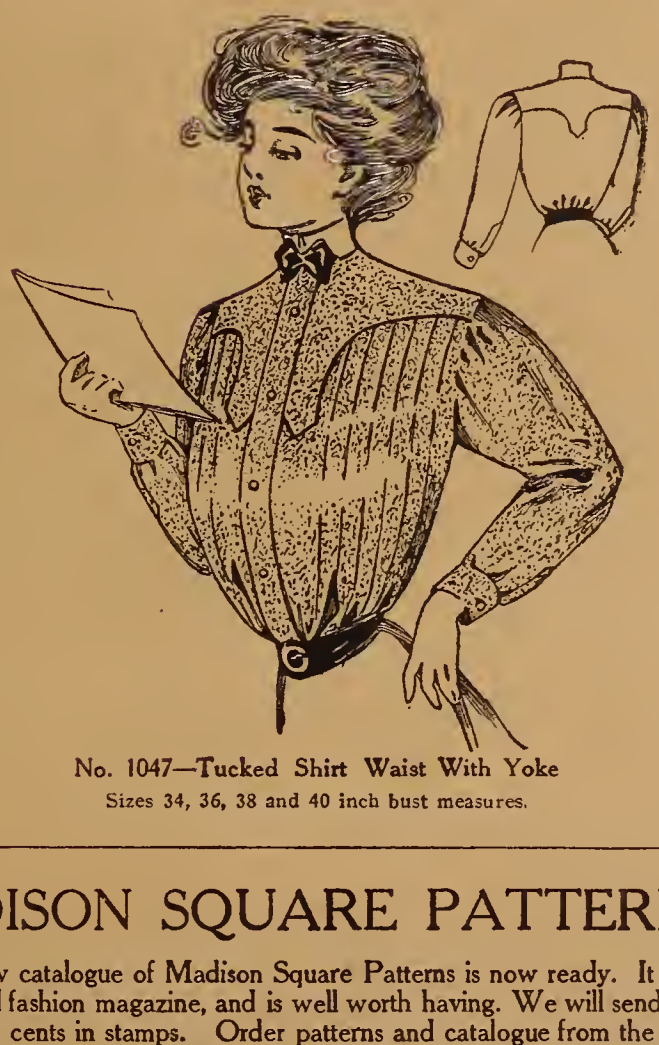


No. 1074—Evening Waist With Shoulder Bands

Sizes 32, 34, 36 and 38 inch bust measures.

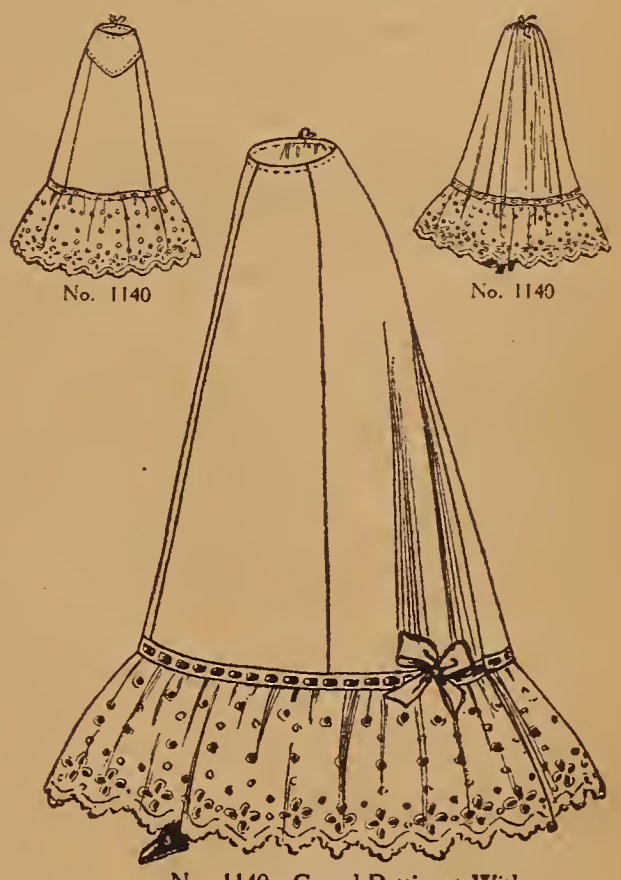
No. 1075—Seven-Gored Band-Trimmed Skirt

Sizes 22, 24, 26 and 28 inch waist measures.



No. 1047—Tucked Shirt Waist With Yoke

Sizes 34, 36, 38 and 40 inch bust measures.



No. 1140 No. 1140

No. 1140—Gored Petticoat With or Without Yoke

Pattern cut for 22, 24, 26, 28 and 30 inch waist measures. Quantity of material required for medium size, or 26 inch waist, six yards of twenty-two-inch material, or three and three fourths yards of thirty-six-inch material, with four yards of flouncing for ruffle.

MADISON SQUARE PATTERNS

The new catalogue of Madison Square Patterns is now ready. It is like a big, illustrated fashion magazine, and is well worth having. We will send it upon receipt of four cents in stamps. Order patterns and catalogue from the Pattern Department, Farm and Fireside, 11 East 24th Street, New York City.

Full descriptions and directions are sent with the pattern as to the number of yards of material required, the number and the names of the different pieces in the pattern, how to cut and fit and put the garment together, and also a picture of the garment as a model to go by.

ALL PATTERNS ARE 10 CENTS EACH

When ordering be sure to comply with the following directions: For ladies' waists, give bust measure in inches; for skirt pattern, give waist measure in inches; for misses and children, give age. To get bust and breast measures, put a tape measure all the way around the body, over the dress, close under the arms. Order patterns by their numbers. Satisfaction guaranteed or money refunded.

OUR LATEST LIBERAL OFFER

We will give any two of these patterns for sending two yearly subscriptions to Farm and Fireside at the regular price of 25 cents each. Your own subscription may be one of the two. When ordering, write your name and address distinctly. We will send Farm and Fireside one year, new or renewal, and any one pattern for only 30 cents.



No. 850—Apron With Round Yoke

Sizes 2, 4, 6 and 8 years.



The Boy is Father to the Man

STEVENS

The boy who owns a Stevens Rifle grows up into a quick, resourceful man. The *first* step is to get our FREE 160-Page CATALOG, which tells all about rifles and shotguns for boys and men and gives facts that every boy and man ought to know. Sent for 5c. in stamps to cover postage. If your dealer doesn't keep genuine Stevens Firearms, write us and we'll ship direct, express paid, for catalog price.

Little Scout, . . .	$2.25
Stevens-Maynard, Jr.,	$3
Crack Shot, ...	$4
Little Krag, ...	$5
Favorite, No. 17, . .	$6

J. STEVENS ARMS AND TOOL CO.
265 Front Street
Chicopee Falls, Mass., U. S. A.

$4.10 GREAT AMERICA

WHILE WE SELL a thoroughly reliable, high grade, single tube pneumatic bicycle tire as low as $2.85 per pair, the great improved America, pictured above, made according to our specifications, is undoubtedly the highest grade single tube tire made, and our new 1908 Peerless Bicycles are equipped with these practically non-destructible great America tires.



LOOK IN OUR LATEST BIG CATALOGUE for our wonderful offerings on bicycles, tires and equipment. If you haven't the Big Book, borrow your neighbor's, or on a postal card addressed to us simply say, "Mail me your great free Bicycle Offers," and get everything by return mail, free, postpaid.
Address **SEARS, ROEBUCK & CO., Chicago.**



MAKE YOUR BICYCLE INTO A MOTORCYCLE

at small cost by attaching the successful Erie outfit. This includes all parts to make a powerful up-to-date machine that climbs steep hills. Sample sold at cost to introduce it. Send 4 cents in stamps for new catalog No. 8.
Motorcycle Equipment Co., Hammondaport, N. Y.

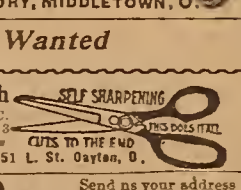
$60,000 Value Given Away



THE RACYCLE has 27% less pressure on its crank hanger, ¼ less strain on chain, it runs and climbs hills easier than other bicycles. Is the largest selling high-grade wheel in the world. Will last a lifetime. We make no cheap RACYCLES but you can get yours AT FACTORY PRICES by securing us an agent. Catalog and pamphlet sent FREE. It tells about the RACYCLE and how to get the $60,000.
THE RACYCLE MANUFACTORY, MIDDLETOWN, O.

Agents Wanted

Agents $103.50 per month selling these wonderful Scissors. V. C. Glebner, Columbus, O. sold 22 pairs in 3 hours, made $13; you can do it, we show how. FREE OUTFIT. F. Thomas Mfg. Co., 51 L. St. Dayton, O.



$3 a Day Sure Send us your address and we will show you how to make $3 a day absolutely sure; we furnish the work and teach you free, you work in the locality where you live. Send us your address and we will explain the business fully, remember we guarantee a clear profit of $3 for every day's work, absolutely sure. Write at once.
ROYAL MANUFACTURING CO., Box 945 Detroit, Mich.

AGENTS $300 Every month selling our wonderful **SEVEN PIECE KITCHEN SET**
Send for sworn statement $12 daily profit. Experience unnecessary. Outfit free. F. Thomas Mfg. Co., 751 L. St., Dayton, O.

10 Illustrated Pictorial Song Post Cards, latest novelty. Each card contains words of a popular song, beautifully and appropriately illustrated in bright and handsome colors. All different. 6 other samples and price list free with order. C. Day, Box 23, New Market, N. J. **10c**



2941 Hidden Name, Friendship, Silk Fringe, Envelope and all other kinds of CARDS and Premium Articles. Sample Album of Finest Cards and Biggest Premium List, all for a 2 cent stamp. OHIO CARD COMPANY, CADIZ, OHIO.

KY. METAL SHINGLES Best for home and farm buildings; Lightning—Fire—Storm Proof. Easily laid—lasting—low cost—handsome. Write KY. STAMPING CO., Dept. 24, Louisville, Ky.

20 Post Cards 10c All different. Fine views and comics. Retail up to 5c each. All prepaid with big catalog for 10 cents. 3 lots 25c. BANNER CO., 1071 N. FAIRFIELD AVE., DEPT. 5, CHICAGO.

Our Young Folks

Cousin Sally's Letter

DEAR BOYS AND GIRLS:—

I have a surprise for you. You are going to have a new relative. So right now let me introduce you to your new Cousin Sally, and then I will tell you just how it all happened. You see, the editor of FARM AND FIRESIDE, though he is a very busy man, has a big warm spot in his heart for the young folks who have been interested in this department. He has enjoyed reading all the letters and bright stories you have been sending him, but he has simply not had the time to write and tell you how much they pleased him. So, after thinking it over very earnestly, he decided that perhaps you wouldn't mind having a new relative—somebody who would have time to read all your letters and would be interested in your work and in your play; some one who would love you and to whom you wouldn't be afraid to tell things, knowing that she would understand and would help you when she could.

Now, I am Cousin Sally, and I think we are going to have a very jolly time here together in our own little corner of FARM AND FIRESIDE, don't you? Of course, I expect you to turn in and help me, and I want you to write and tell me what kind of stories you like best, and all about your work and your play. Suppose you write me a story telling me all about your own particular little garden—just what you have planted in it, and whether or not it is a flower or vegetable garden, and if you hope to make money by it.

There is one little thing in the beginning that I am going to ask you to do, and it is this: When writing your stories, remember to help the printer all you can. The way to do this is to write in ink on only one side of the paper. You see, when a printer is setting up the type for a page in a paper, he has before him a pile of all the written pages that are to go on that particular printed page. These pages have writing only on one side, so that the printer will not have to turn over the sheets. This helps him very much, not only in doing the work more quickly, but in avoiding mistakes, for in his hurry he might set up the wrong side of one of the written pages first, and then you can easily see what a funny-sounding story it would be. And please remember, also, that I am Cousin Sally to all of you, and I am very eager to know all about my new cousins. Affectionately,

COUSIN SALLY.

Wu-chow-son, the Wind Blower

BY GILBERT L. WILSON

AN INDIAN had his wigwam near the sea, at a place where there was good fishing. Often he went out in his canoe, and speared fish, or caught them in his nets.

But when fall came, and the geese were flying south, the weather grew windy. The Indian had never seen it blow so hard in his life.

Each morning he dragged his canoe down to the water's edge and made ready his nets. But he could not paddle against the wind.

The Indian became quite vexed at last. "It is Wu-chow-son, the Wind Blower, who does this," he said. "He is fanning the wind with his wings. I will ask him not to move his wings so fast. Then the waves will go down."

He put away his nets, took his bow and some pemmican, and started off. After many weeks he came to the place in the North where Wu-chow-son lives.

Here he saw a tall rock rising up at the edge of the sky. On the rock sat Wu-chow-son. His broad wings were spread like two clouds. When he swept them through the air the wind howled.

Wu-chow-son was a great white eagle, taller than a hill. The Indian climbed to the top of the rock where Wu-chow-son sat. The Indian spoke boldly to Wu-chow-son. "Ho, Wind Blower," he said, "do not move your wings so fast. The wind raises the waves, so that I cannot paddle my canoe nor use my nets."

But Wu-chow-son looked down at the Indian, and laughed. He swept his broad wings through the air, and the wind roared louder than ever. Then he said, "Go away, away! I do not care if the wind does blow the waves. Long before men went upon the sea I moved my wings and screamed."

This made the Indian quite angry. "Very well, Wind Blower," he cried. "I shall tie your wings, so that you cannot move them."

He ran at the great eagle and threw him upon his back. Then he tied the Wind Blower's wings with ropes, and dragged him to a dark place between two rocks.

The Indian was quite happy when he came to his wigwam. He could now go out in his canoe and fish. The wind had died down and there was a calm.

But by and by a change came over the sea. The water grew foul and stagnant. A thick green scum spread all over the surface. Many fishes died, and floated upon the water. The Indian could not even go out to sea in his canoe.

At last he left his wigwam and set out again for the North. After many weeks he came to the place where Wu-chow-son lay.

He lifted the great eagle out of the dark place, and set him again on the tall rock. Then he loosened one of the Wind Blower's wings. The other he left tied.

Wu-chow-son began to move his great wing, and the wind blew once more. Soon the thick scum went away from the sea.

But the Indians say that the wind does not blow so hard now, because Wu-chow-son can move only one of his wings.



EACH VEGETABLE ROOTS FOR ITS FAVORITE

The Race

BY MYRA E. WHITNEY

A RACE was on in Garden Row,
And all the town was there,
For Parsnip proud and boasting Beet
Were men to do and dare.

As on they ran, the ladies cheered,
The men, they stamped their feet;
And at the last 'twas Parsnip won,
And boasting Beet was beat.

200 Styles of Vehicles
65 Styles of Harness
Sold Direct from our Factory to User



No. 669½. Fancy Car Plush Trimmed Buggy with auto seat, fancy padded wing dash, bike gear and rubber tire. Price complete, **$78.00.** As good as sells for $25 more.

Buy Direct From Our Factory

Saving all expenses and profits of the dealer. Elkhart Buggies and Harness have been sold direct from our factory to the user for 35 years. We are

The Largest Manufacturers in the World

selling to the consumer exclusively. We ship for examination and approval, guaranteeing safe delivery. No cost to you if not satisfied as to style, quality and price. Send for new free catalog.

Elkhart Carriage & Harness Mfg. Co.
Elkhart, Ind.

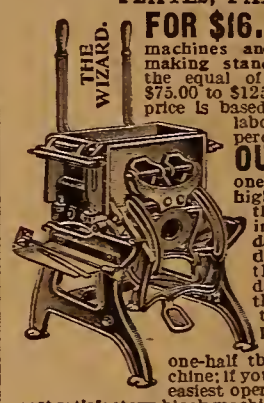
No. 313. Light Surrey with Canopy top and fine auto seats. Price complete, **$78.00.**



As good as sells for $35 more.

$16.95 CONCRETE BLOCK MACHINE

WITH COMPLETE OUTFIT OF FACE PLATES, PALLETS, ETC.



FOR $16.95 we furnish one of the best concrete block machines and outfits ever made for making standard 8x8x16-inch blocks, the equal of machines others sell at $75.00 to $125.00. Our marvelously low price is based on cost of material and labor, with just our one small percentage of profit added.

OUR OFFER: We will ship you one of our Wizard Machines, higher in price yet only one-third what others ask for inferior machines, on thirty days' free trial, with the understanding and agreement that you can use it for thirty days, and if you don't find that our Wizard turns out the highest grade, most perfect blocks with one-half the cost, one-half the labor, one-half the trouble of any other machine; if you don't find it the simplest, easiest operated, by far the fastest and most satisfactory block machine ever produced, then you can return the machine to us and we will immediately return all you have paid for freight charges or otherwise, and the trial will NOT COST YOU ONE CENT.

Write for our new Concrete Block Machine Catalogue with the machine explained in detail, copy of our binding guarantee, our free trial offer, letters from users everywhere, about the wonderful Wizard money maker; it's a great opportunity for profits, all explained in our free Concrete Block Machine Book. Cut this ad out and send to us and you will get the book and all our latest offers free by return mail, postpaid. Address
SEARS, ROEBUCK & CO., CHICAGO

From the Owners Direct to You!

CHOICE FARMING LANDS at low prices and on long time and easy terms, any sized Farm or Tract.

IN MINNESOTA & WIS.



In the Clover and Dairy Country, near the Twin City and Lake City markets, where there is timber, clear sparkling lakes and streams, and the finest climate in the world, and where we will sell you selected Lands at from $8 per acre up.



IN N. DAKOTA! In Dunn County, a rich wheat growing section, where farmers can start with small capital, where new Railroads are sending values up rapidly, where coal is abundant and easily mined, and where we can sell you choice Lands at from $10 per acre up.

Write to us. Tell us where you want to go. We will send you Maps and illustrated descriptive matter on any section. You will make no mistake in dealing with us. We've been locating Homeseekers for many years. Capital, $500,000, paid.

THE NORTHERN BLUE GRASS LAND CO.,
Room 25, 4th and Jackson Sts., ST. PAUL, MINN.
101 Washington St., CHICAGO, ILL.
From the Owners Direct to You!

WESTERN CANADA WHEAT LANDS

Abound in opportunity for the alert; are making fortunes for the careful investor and the intelligent farmer; afford an opportunity to start farming with but small outlay. Western Canada is making marvelous strides and her lands producing magnificent crops.

WHEAT YIELDS
Average Bushels Per Acre, Govt. Statistics

	1901	1902	1903	1904	1905	1906
Sask.	25.41	22.57	19.44	17.51	23.09	21.40
Alta.	24.58	18.36	18.65	16.58	21.46	23.85
Kas.	18.5	10.4	14.1	12 4	13.9	15.1
N. Dak.	13.1	15.9	12.7	11 8	14.0	13.6
Iowa	16.2	12.7	12.4	11.6	14.2	15.7

It is because Western Canadian lands produce more and cost very much less that they are good buying and the shrewd investor and intelligent farmer are taking hold of them.

Our lands lie east of Warner in Southern Alberta, east of Stettler in Central Alberta, and in the Eagle Lake, Tramping Lake and Cut Knife districts of Central Saskatchewan. Prices from $7.00 to $15.00 per acre; terms easy. Information gladly given upon request.

CANADA LOAN AND REALTY COMPANY, Limited
315 McIntyre Block Winnipeg, Canada

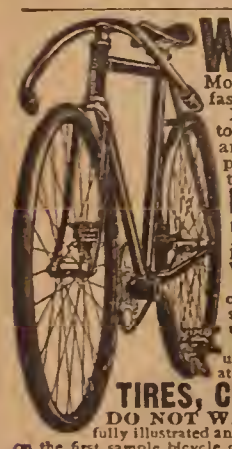
CANADA LANDS

We have for sale 300,000 acres of choice prairie lands, located in well settled districts in Saskatchewan and Alberta, near to railways and towns. Have fine colonizing propositions. Low prices, easy payments, Government title. Write for map and pamphlet. Active Agents Wanted.
STEWART & MATHEWS COMPANY, Ltd.,
305 Jackson Street, ST. PAUL, MINN.

All About Texas

Oklahoma, Arkansas, Louisiana, New Mexico. Homes for the homeless, prosperity for the industrious. The home builders' guide. Send stamp for sample copy.
FARM AND RANCH, Dallas, Texas.

SOUTHWESTERN FARMS
CHEAP HOMES, MILD CLIMATE, FINE SEASONS
All kinds of crops, Cotton, Corn, Wheat, Oats, Alfalfa, Cantaloupes, Watermelons and Garden Vegetables, as well as all kinds of Fruit. Write to A. S. DOAK, Vernon, Texas.



WANTED—A RIDER AGENT IN EACH TOWN and district to ride and exhibit a 1908 Model "Ranger" bicycle furnished by us. Our agents everywhere are making money fast. *Write for full particulars and special offer at once.*

NO MONEY REQUIRED until you receive and approve of your bicycle. We ship to anyone, anywhere in the U. S. *without a cent deposit* in advance, *prepay freight*, and allow TEN DAYS' FREE TRIAL during which time you may ride the bicycle and put it to any test you wish. If you are then not perfectly satisfied or do not wish to keep the bicycle you may ship it back to us at our expense and *you will not be out one cent.*

FACTORY PRICES We furnish the highest grade bicycles it is possible to make at one small profit above actual factory cost. You save $10 to $25 middlemen's profits by buying direct of us and have the manufacturer's guarantee behind your bicycle. **DO NOT BUY** a bicycle or a pair of tires from *anyone* at *any price* until you receive our catalogues and learn our unheard of *factory prices* and *remarkable special offers* to **rider agents.**

YOU WILL BE ASTONISHED when you receive our beautiful catalogue and study our superb models at the *wonderfully low prices* we can make for 1908. We sell the highest grade bicycles for less money than any other factory. We are satisfied with $1.00 profit above factory cost. **BICYCLE DEALERS,** you can sell our bicycles under your own name plate at double our prices. Orders filled the day received.

SECOND HAND BICYCLES. We do not regularly handle second hand bicycles, but usually have a number on hand taken in trade by our Chicago retail stores. These we clear out promptly at prices ranging from $3 to $8 or $10. Descriptive bargain lists mailed free.

TIRES, COASTER-BRAKES, single wheels, imported roller chains and pedals, parts, repairs and equipment of all kinds at *half the usual retail prices.*

DO NOT WAIT, but write today and we will send you **free** by return mail our **large catalogue,** beautifully illustrated and containing a great fund of interesting matter and useful information; also a *wonderful proposition* on the first sample bicycle going to your town. It only costs a postal to get everything. **Write it now.**

MEAD CYCLE COMPANY Dept. T-83 **CHICAGO, ILL.**

Anybody Can Kodak



The No. 2 A BROWNIE

Pictures, 2½x4¼. Price, $3.00

Built on the Kodak plan—uses Kodak film cartridges and may be loaded and unloaded in broad daylight. No dark-room for any part of the work. A perfectly practical little camera for snap-shots or time exposures.

THE 1908 KODAK CATALOGUE fully describes and illustrates our six styles of *Brownies* and fifteen styles of *Kodaks*, ranging in price from $1.00 to over $100.00, and fully explains the daylight development methods which have done away with the dark-room. Free at any Kodak dealers or by mail.

EASTMAN KODAK CO.
382 State Street,
Rochester, N. Y., *The Kodak City.*

"THE OLD RELIABLE"

DIETZ LANTERNS

THERE ARE NONE "JUST AS GOOD"
WHEN YOU BUY A LANTERN INSIST ON A "DIETZ"
MADE BY R. E. DIETZ COMPANY NEW YORK
Largest Makers of Lanterns in the World
ESTABLISHED 1840
PIONEERS AND LEADERS

WANTED
to hear from owner having
A GOOD FARM
for sale. Not particular about location. Please give price and description, and reason for selling. State when possession can be had. Will deal with owners only.
L. Darbyshire, Box 984X, Rochester, N. Y.

Homeseekers, Come to Tennessee

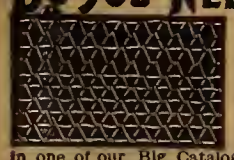
Tennessee produce growers most fortunately situated Tennessee produce reaches southern markets just as extreme southern-grown produce is exhausted, and reaches northern markets several weeks earlier than northern-grown stuff, thus commanding very best prices both north and south. From $100 to $400 per acre cleared from Cantaloupe, Cabbage and Tomato crops in Tennessee in 1907; notwithstanding, this land is selling for from $5 to $20 an acre. Excellent climate; pure water. For descriptive literature address M. V. Smith, Traffic Mgr., Dept. S, Nashville, Chattanooga & St. Louis Ry., Nashville, Tenn.



ANCHOR FENCE
CATALOG FREE
Write at once for our new, money-saving plan, tells how to buy the best farm and ornamental fence at the lowest possible price, saving all jobber's and dealer's profits. We are saving thousands of dollars to fence buyers every year. Special agents' proposition. Write—
Anchor Fence & Mfg. Co.
Sta. D, Cleveland, Ohio



DO YOU NEED FENCING?

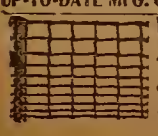


SAVE ONE-HALF OR MORE IN COST and get the best steel woven wire fencing made, strongest and most lasting manufactured; buy it at about the cost of a few strands of common dangerous barbed wire. We make it in our own factory. Look for it in one of our Big Catalogues. If you haven't the Big Book, get your neighbor's, or this moment in a letter to us say, "Mail me your wonderful Woven Wire Steel Fence Offer."
Address, SEARS, ROEBUCK & CO., CHICAGO.

Cheap as Wood.



We manufacture Lawn and Farm FENCE. Sell direct shipping to users only, at manufacturers' prices. No agents. Our catalog is Free. Write for it to-day.
UP-TO-DATE MFG. CO., 971 10th St., Terre Haute, Ind.



Wire Fence 29c
48-in. stock fence per rod only
Best high carbon coiled steel spring wire. Catalog of fences, tools and supplies FREE. Buy direct at wholesale. Write today.
MASON FENCE CO., Box 86, Leesburg, O.

Sunday Reading

Importance of Little Things

IN FORMING character little things go a great way. It is a very small thing for a man to jest at sacred things. In one way it amounts to a little, but in another way it amounts to a great deal. Because, when you have begun to take off the enamel from the back of a mirror, every particle that you scrape off, every scratch that you make, mars the image that the mirror reflects. And every time you trifle with reverent or sacred things it is as though you scratched a mirror, and afterward every image that you see when you look at those things is marred. An irreverent jest is a little thing, but its influence on the moral sense and upon veneration is a great thing, because it leads to another thing which is still worse, and another thing which is worse than that, until by and by the power of invisible and venerable things on the soul is well-nigh destroyed.

There are a great many persons who are thoroughly of the opinion that black lies are wicked; but of white lies they have a better opinion. Now, what is a white lie? Well, you cannot give any definition of it except that it is a small lie. What is a small lie? Well, it is an untruth in some trivial matter. And so far as the consequences are concerned, it may be trivial; as, for instance, where you deceive a child, and he forgets it and you forget it. A white lie is a deception like that of telling a person that you have not been where you have been when he has no business to know anything about it. When Walter Scott was writing one of his novels, and he did not wish it known that he was the author of it, and a man said to him, "Are you the author of that novel?" he said, "No, I am not." And in his own letters in his life he makes the distinct statement that he had a right to deny what other people had no business to know. That was the moral ground which he took. Is not that a tenable ground? I do not ask whether persons' weaknesses may not sometimes throw them upon such a ground. I do not ask whether you would not do the same thing under the same circumstances. I take the ground that if a man indulges in a falsehood in a great thing, he will in a little. And that if he does it in a little thing, he is easily led to do it in a great. I am not asking whether men would not do so and so. Very likely I would. But that would not make it any better. The question is, is it right? Is it safe? Is it honorable? Is it consistent with the Christian idea of character? I say that little lies are not as dangerous as lions. Neither are little vermin. And yet a man had better have his head clean and his skin clean.

It is true of vices generally that small ones become large ones. Single actions may be insignificant and yet by repetition may become well-nigh omnipotent. There is nothing, I suppose, that is more feeble than a single strand of a spider's web. I read an account only a few days ago of a man who saw a very curious spectacle—that of a blacksnake more than a foot long suspended in the air in a perfect sack of spider's web. And the spider was not a large one. It was one of these small spiders. It bore no proportion to its victim. Nor could he by any biting hurt him. But there he had him imprisoned. He had drawn him little by little into the air and the snake could not help himself. Probably the serpent was torpid or the enemy was so small that he did not know that he was upon him. And the spider spun out of his bowel a little film, not a third part as large as the smallest thread that a woman uses withal, and he dipped down and touched the snake with it, and it stuck. He went on industriously, and as the snake lay quiet, he put another and another film upon him. And as there was time enough, he added another and another until there were a hundred, a thousand, ten thousand of them. And by and by these little weak strands, no one of which was strong enough to hold a gnat, when multiplied became strong enough to encase the victim.

A million times stronger the snake was than that miserable little spider, and yet the spider caught him. He webbed him around and around, until when he tried to move he was held fast. That web had grown strong out of its weakness. By putting one strand here and another there and drawing on this, that and the other, the spider had at last lifted the burden, and it hung suspended in the air. I have seen men webbed by offenses in that same way, and no one of the offenses was much larger than the film of a spider's web, and at last they were imprisoned and destroyed.
—Extracts from the "Plymouth Pulpit Sermons" of Henry Ward Beecher.

Thoughts to Live By

EVENING meditation is less important than morning preparation, "Well begun is half done."

* * *

"If thou faint in the day of adversity thy strength is small"—too small to be worth talking about, for the way of adversity is its first real opportunity.

* * *

Live with the light of God's love shining into your *common* day. Take old gifts and joys continued as though they were fresh gifts. So we can sing a *new* song unto the Lord every day.

* * *

The man who never makes any mistakes never makes anything. Many chips, broken instruments and cuts and bruises belong to the history of any beautiful statue. Persist in spite of everything.

* * *

Life is what we are alive to. It is not length, but breadth. To be alive only to appetite, pleasure, pride, money making, and not to goodness and kindness, purity and love, history, poetry, music, flowers, stars, God and eternal hopes, it is to be all but dead.

* * *

No one can do anything to-morrow. If I live until to-morrow and do anything, it will have been done to-day. Then, if it is right, do it to-day. To-morrow may not come. Fly your flag to-day for Jesus Christ. If you have given yourself to Him, you will be stronger to fight a good fight and keep the faith to-morrow, if to-morrow ever becomes to-day.

◈

How to Win Victories

Forgetting those things which are behind, and reaching forth unto those things which are before, I press toward the mark.—Phil. iii, 13-14.

IT IS not by regretting what is irreparable that true work is to be done, but by making the best of what we are. It is not by complaining that we have not the right tools, but by using well the tools we have. What we are, and where we are, is God's providential arrangement—God's doing, though it may be man's misdoing; and the manly and the wise way is to look your disadvantages in the face and see what can be made out of them. Life, like war, is a series of mistakes, and he is not the best Christian nor the best general who makes the fewest false steps. He is the best who wins the most splendid victories by the retrieval of mistakes. Forget mistakes; organize victory out of mistakes.

BY PUTTING off things beyond their proper times, one duty treads upon the heels of another and all duties are felt as irksome obligations—a yoke beneath which we fret and lose our peace. In most cases the consequence of this is that we have no time to do the work as it ought to be done. It is therefore done precipitately, with eagerness, with a greater desire simply to get it done than to do it well, and with very little thought of God throughout.

◈

The Sin of Omission

It isn't the thing you do, dear,
It's the thing you leave undone,
Which gives you a bit of heartache
At the setting of the sun.
The tender word forgotten,
The letter you did not write,
The flower you might have sent, dear,
Are your haunting ghosts to-night.

The stones you might have lifted
Out of a brother's way,
The bit of heartsome counsel
You are hurried too much to say,
The loving touch of the hand, dear,
The gentle and winsome tone,
That you had no time nor thought for,
With troubles enough of your own.

These little acts of kindness,
So easily out of mind,
These chances to be angels,
Which even mortals find—
They come in night and silence,
Each chill, reproachful wraith,
When hope is faint and flagging,
And a blight has dropped on faith.

For life is all too short, dear,
And sorrow is all too great,
To suffer our slow compassion
That tarries until too late,
And it's not the thing you do, dear,
It's the thing you leave undone,
Which gives you the bitter heartache
At the setting of the sun.

—Margaret E. Sangster.



Did you ever realize how dangerous it is to have your will, the deed for your home, your insurance policies, stock certificates, bonds, your private letters and other valuable papers stowed away in bureau drawers or old trunks?

They are not safe a minute from fire, from thieves—or from the prying eyes of those who have no right to see them.

Can you afford to take such risks?

The Carnegie Safe Deposit Company of New York offers you the security of the largest and strongest safe deposit vaults in the world—and the United States Government undertakes to be your messenger through its registered mail and rural free delivery service, no matter where you may live.

In other words, the absolutely safe and speedy mail system reaching into every nook and corner of the country, makes it possible for *every* man and woman to take advantage of these great armor plate vaults for the safe keeping of valuables.

The system of safe deposit by mail is exceedingly simple.

A large, heavy envelope is furnished free to depositors. Valuable papers are placed in this and it is tied with tape and sealed with wax.

It is then sent to the Safe Deposit Company by registered mail and is receipted for by officers of the company and the Government.

The envelope is then locked in its proper compartment in the great vault and is returned to the owner at his will, with the original seals unbroken. Nobody but the owner himself can see or know the contents of the envelope. The fee for all this service is $2 a year for an envelope containing as many papers as it will hold. And this envelope may be returned to you as many times as you desire during the year without extra cost.

Write today for the illustrated booklet giving full details. Delay may cause you serious loss. Do it now.

CARNEGIE SAFE DEPOSIT COMPANY
95 Trinity Buildings, New York

MADE FOR SERVICE
IN THE ROUGHEST WEATHER AND GUARANTEED ABSOLUTELY
WATERPROOF



POMMEL SLICKERS
$3.50
This trade mark and the word TOWER on the buttons distinguish this high grade slicker from the just as good brands
A. J. TOWER CO. BOSTON, U. S. A.
TOWER CANADIAN CO. LIMITED, TORONTO, CAN.



PATENT YOUR IDEAS
$100,000 for one invention; another $8,500. Book "How to Obtain a Patent" and "What to Invent" sent free. Send rough sketch for free report as to patentability. We advertise your patent for sale at our expense.
Patent Obtained or Fee Returned.
CHANDLEE & CHANDLEE, Patent Att'ys,
(*Established 15 years*)
987 F, Street, Washington, D. C.



LAWN FENCE
Many designs. Cheap as wood. 32 page Catalogue free. Special Prices to Churches and Cemeteries.
Coiled Spring Fence Co.
Box 403 Winchester Ind.



DON'T RUST FARM FENCE
Sold direct to farmers at manufacturers' prices. Catalogue free. Freight prepaid.
THE WARD FENCE CO.
Box 867 Decatur, Ind.

PATENTS SECURED OR FEE RETURNED.
Free report as to patentability. Illustrated Guide Book, and List of Inventions Wanted, sent free.
EVANS WILKENS & CO., WASHINGTON, D. C.

PATENTS that PROTECT
Our 3 books for inventors mailed on receipt of 6 cts. stamps
R. S. & A. B. LACEY, Rooms 28-38 Pacific Bldg.
Established 1869. Washington, D. C.

PATENTS Inventor's Book Free. Trade Marks
BEELER & ROBB, 93-95 Baltic Building, Washington, D. C.

The UNIVERSAL MAGAZINE the most interesting. Send 25 cents for one year's subscription and 12 beautiful pictures. Address, HALE PUBLISHING CO., 5580 Vista Avenue, St. Louis, Mo.

You Can Get This Pony!

"Duke"—that's his name—is to be given to one of our boys or girls, with his cart, harness, saddle and bridle, in just a **few weeks.** But "Duke" is not by any means the only pony—plenty of opportunity for any boy or girl to get one for the summer's fun! Pianos and lots of other prizes, too, almost as good. We want every FARM AND FIRESIDE family to be **represented** in this best of all pony contests. We want **every one** of our boys, girls and good friends to win one of these handsome prizes. See that **your** family is represented.

Other Prizes, Too, For Our Boys and Girls —Easier Than Ever to Win!





Remember, we will get the pony and have it all ready for the summer's fun.



The Farm and Fireside Pony Man writing to his boys and girls



One of our former pony winners, Miss Marguerite Lawson, Hopkinsville, Ky., with her prize pony and cart decorated for 4th of July parade. What this girl did, you can do

Dear Boys and Girls:

Good news again! Farm and Fireside is going to start another pony contest rightaway, and it will be easier than ever before to win a pony.

"Duke", the beautiful pony whose picture you see above, is to be given away in July to some boy or girl, and you can get him easily if you try. He is the handsomest pony you ever saw,- much better even than "Prince", the first prize pony in our last contest. With "Duke" we will also give away the pretty cart and harness shown in the picture below.

You will be the happiest boy or girl in all this world to get "Duke" - and just think, it is only a few weeks before you can win him if you hustle! What fun you will have driving and riding him all around this summer and taking out your family and friends for a ride. This is your greatest chance.

A PRIZE FOR EVERY CONTESTANT.

In addition to all the ponies that will be given away, there are fifty of the finest grand prizes ever offered in a contest. These consist of pianos, talking machines, merry-go-rounds, music boxes, beautiful Waltham or Elgin gold watches, sewing machines, musical instruments and other merchandise prizes too numerous to mention here. Absolutely every contestant will get a valuable prize. That is our guarantee and Farm and Fireside stands behind it. This is very different from other pony contests, for you cannot lose.

It is going to be a great deal easier to win "Duke" than it has ever been to win a pony before, because this contest will last only half as long as our other contests, and in just a few weeks, if you hustle, "Duke" will be yours for good. All you have to do to get him is give Farm and Fireside a little of your time, for every bit of which you will get a cash commission, in addition to all the ponies and grand prizes. It will be a perfect "cinch" to win "Duke". Do you want to win him?

WRITE THE PONY MAN TO-DAY.

That's all you have to do. Send me your name in a letter or postal and say "Dear Pony Man: I want to win "Duke". Tell me all about how I can win him and the other fine prizes". Then sign your name and address in full. My address is Pony Man, Farm and Fireside, Springfield, Ohio. I will write you just as soon as I hear from you. Remember, "Duke" is to be given away in just a short time. Hustle and you'll win him!

Yours for a pony this summer,

The Pony Man of FARM AND FIRESIDE

P.S. If you want to make sure of a prize rightaway, don't wait for an letter but start right out and get ten subscriptions to Farm and Fireside at 10 cents each. Then you will be a contestant and prize-winning sure. And you can keep 50 cents cash commission for the ten subscriptions, too.

Things Worth Knowing

Edison's Early Experiments

BY J. L. HARBOUR

THE little town of Milan in Ohio is today inclined to be boastful of a fact that no one thought of any significance when it occurred. How could one forecast the future and know that the new baby born in the little one-story brick house of Samuel Edison that raw February day in 1847 would live to become the greatest inventor of the age? And as he put aside his baby garments and developed into a sturdy boy he was not in any marked way different from the other boys in the town. He was a real boy with a real boy's capacity for getting into the mischief that adds zest to every boy's life, even though it brings its aftermath of sorrow in the way of trouncings.

All the instruction Edison ever received up to the time he was twelve years old was given him by his mother. The family had by this time left Milan, and were living at Port Huron in Michigan. Their finances were pretty low and the boy Thomas thought that he ought to do something to help out. Therefore he secured a position as newsboy on the Grand Trunk Railroad running between his home and Detroit.

While he was serving as a newsboy he published and edited the "Weekly Herald," a crude and tiny paper, which he sold at ten cents a copy. Soon the paper reached a subscription circulation of five hundred copies, and about two hundred copies were sold by the youthful editor and publisher on the train. The paper brought him, when in its palmiest days, as much as forty-five or fifty dollars a month net profit. The young journalist did all of the work of getting out his paper himself, and there is abundant proof of the fact that there were few "lazy bones" in the boy. He had the hustling instinct strong even as a young lad.

Edison's inventive genius cropped out very early in his boyhood, and he was experimenting with chemicals in all sorts of ways even while he was a newsboy. Indeed, it was this experimenting that brought him to grief as a publisher and that fired him from the train in a double sense. Edison had a kind of laboratory and printing shop in the baggage car of the train, and one day while the train was in motion he was experimenting in some way with his chemicals, when the car rounded a curve suddenly, and the boy lost his balance, dropping a bottle of phosphorus to the floor. The woodwork of the car caught fire, and he was doing his utmost to stamp out the fire, when the conductor, a quick-tempered Scotchman named Stevenson, appeared. His wrath rose high, and he flew around and put out not only the fire, but the innocent cause of it, for when the train reached the next station a few minutes later, the young editor-inventor-publisher was pitched from the train, and his entire chemical and printing outfit followed him very speedily. That was the end of young Edison's chemical experiments and editing on a railroad train, but as all the world knows, it was by no means the last of his experiments. The boy's next laboratory was in a room in his own home, and here also was his printing office. A generous friend in Detroit who sympathized with him gave him a lot of type, and the "Weekly Herald" was revived, and continued for some time. Then it gave place to a paper named "Paul Pry," brought out by Edison and another boy. This paper was a bit too personal and a trifle too prying into other people's affairs, and was not a success. It finally came to an inglorious end, and its editor became more deeply interested in his electrical and chemical experiments than ever before. That he was wise in doing so has long been apparent. His sixty years of life have in them as much of achievement, often against heavy odds, as one will find in the life of any man in any age of the world's history.

◈

Don't Tell Your Troubles

DO NOT tell your troubles, because the fewer people who know of the things that have handicapped you, the better it is for you. You will then be spared the influence of the unfortunate suggestions which your hard-luck stories make upon other people's minds.

Then, again, every time you repeat the story of your misfortunes, your troubles, your trials, your failures, you etch the dark picture a little deeper in your own mind—make a little more real to you what you ought to erase forever.

The only thing to do with a bad piece of work with an unfortunate mistake is to let it go, wipe it out, get rid of it forever. Never allow the hideous image to come into your presence again to mar your happiness or sap your strength. Resolve that whatever has happened to you in the past, which has caused you unhappiness, which has disgraced you, which has made you think less of yourself and made others think less of you, you will drop it; that you will clean house and will keep with you only the things that can brighten, cheer and help you.—Success.

◈

Animals That Like Music

THE extraordinary musical sensitiveness of spiders has several times been proved. Every one has heard of Pellisson's spider. Consoler of the unfortunate prisoner, it perished because it listened too closely to the captive's violin. The jailer saw it and crushed it brutally.

Gretry, the composer, speaks of a favorite spider which descended along its thread upon his piano as soon as he played it. When giving recitals at Brussels, Rubinstein saw a large spider issue from the floor of the platform and listen to the music. He gave three concerts at the same hall, and on each occasion the spider appeared.

Insects in general, though less sensitive to music, do not object to it. Fishes betray little or no interest in music. Everybody, on the other hand, probably knows that music is often used in order to attract snakes from their hiding places.

The Indians catch iguanas in that manner, and there is an experiment that we can all make to demonstrate the truth of the matter. If a violin or piano is played whenever there is a lizard visible, the lizard will stop and listen with obvious pleasure as long as the music lasts.

It is a well-known fact that in those countries where oxen are used for labor they take great pleasure in the singing of their driver. They work better at the plow when stirred by a cheerful song. Arabs sing to their camels during long journeys across the desert.

Horses are particularly sensitive to music. Guenoe, who carefully studied the matter, quotes the following curious fact:

"In 1892 the Fifty-eight Regiment of Infantry was making a military test march when the music struck up. The young horse of Capt. De R— hastened forward and placed itself, in spite of its rider, behind the last rank of the musicians. Then it followed peacefully, giving obvious signs of pleasure.

"When the music ceased, the Captain was able to resume his place at the head of his company, but the band struck up again, and the horse, notwithstanding the efforts of Capt. De R—, galloped ahead and once more placed itself behind the musicians. This happened every time the band played."

Lions have been found to listen with marked joy to the piano. They appreciate the top notes and the medium, but roar terribly when the bass keys are struck loudly.

Scarlatti, the Italian composer, owned a cat which loved to walk on the keys of a piano, and struck certain notes in preference to others. The composer took those notes as the theme of one of his fugues, which, for that reason, received the name of "The Cat Fugue." I have seen many cats walk up and down the keyboard, showing obvious pleasure at the sound thus produced.

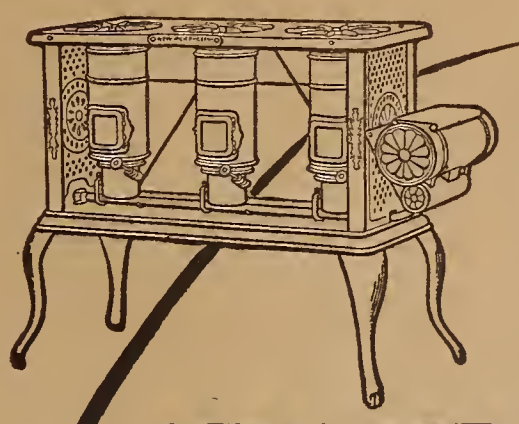
The writer knows of a dog that will listen intently and silently to all melodies, but displays every symptom of pain and agony at the sound of a chromatic scale. This dog becomes quiet as soon as the melody is again taken up. It is only the succession of semitones which makes so extraordinary an impression upon it. I know of another dog that is fond of organ music, but wails terribly as soon as the vox celeste stop is used.

If one wished to make serious experiments in musical psychology, the dog would no doubt prove the most interesting study, and the monkey, too, would be fascinating. Darwin mentions a gibbon which was able to sing a complete octave, and it is known that black chimpanzees will gather to the number of from twenty to fifty and form a kind of orchestra, beating pieces of hollow wood with sticks for their own pleasure.—La Revue.



THE BIRTHPLACE OF EDISON AT MILAN, OHIO

Hot Stove—Cool Kitchen



How do you expect to endure the broiling days of summer if you prepare all the food over a glowing coal fire?

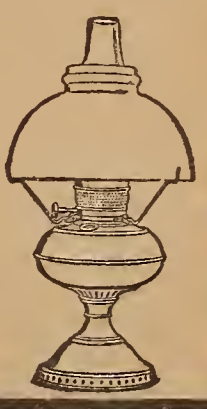
You need a "New Perfection" Oil Stove that will do the cooking without cooking the cook. It concentrates plenty of heat under the pot and diffuses little or none through the room. Therefore, when working with the

NEW PERFECTION
Wick Blue Flame Oil Cook-Stove

the kitchen actually seems as comfortable as you could wish it to be.

This, in itself, is wonderful, but, more than that, the "New Perfection" Oil Stove does perfectly everything that any stove can do. It is an ideal all-round cook-stove. Made in three sizes, and fully warranted. If not with your dealer, write our nearest agency.

The Rayo Lamp a substantial, strongly made and handsome lamp. Burns for hours with a strong, mellow light. Just what you need for evening reading or to light the dining-room. If not with your dealer, write our nearest agency.



STANDARD OIL COMPANY
(Incorporated)



"A Kalamazoo Direct to You"

We have more than 100,000 satisfied customers in more than 17,000 cities, villages and towns in the United States who have each saved from $5 to $40 by buying a Kalamazoo stove or range on

360 DAYS APPROVAL

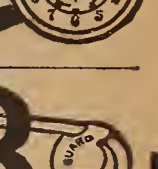
direct from our factory at actual factory prices. No stove or range has a higher repntation or gives better satisfaction. You run no risk. You save all dealers' profits. We pay the freight.

Send Postal For Catalog No. 183

and see list of towns where we have satisfied customers.

Kalamazoo Stove Company, Mfrs., Kalamazoo, Mich.

Our patent oven thermometer makes baking and roasting easy.



1 to 3

Saving a cent on a paper of pins and buying three papers, is poor economy; when *one* paper of

STEWART'S
DUPLEX
SAFETY PINS

will outlast three of any other kind. They are the best because the stiffer wire doesn't bend, and they stay fastened. The sharp points and the guarded spring prevent tearing the cloth. Fasten from either side, but can't slip through. The only pin that guarantees safety and comfort.

If your dealer does not keep them, send us his name and address with four cents in stamps for samples, retailing for twice the money. Examine them carefully, and you'll always ask for Stewart's Duplex Safety Pins. See that all cards bear the name of

CONSOLIDATED SAFETY PIN CO.
169 Farrand St. Bloomfield, N. J.

Don't Throw it Away MEND IT
Does Your Granite Dish or Hot Water Bag Leak?



USE COLLETTE'S PATENT PATCHES mend all leaks in all utensils—tin, brass, copper, graniteware, hot water bags, etc. No solder, cement or rivet. Anyone can use them; fit any surface; Send for sample pkg. 10c. Complete pkg. assorted sizes, 25c. postpaid. Agents wanted. Collette Mfg. Co., Box 548, Amsterdam, N. Y.

WESTERN CANADA LANDS!



We own 155,000 acres LAST MOUNTAIN VALLEY, Saskatchewan, prairie wheat lands. We want BUYERS. Will contract with energetic AGENTS. Liberal commission. Send 10c for handsome illustrated booklet and maps.

WM. PEARSON CO., Ltd.,
330 Northern Bank Bldg. Winnipeg, Can.



PARKER'S HAIR BALSAM
Cleanses and beautifies the hair. Promotes a luxuriant growth. Never Fails to Restore Gray Hair to its Youthful Color. Cures scalp diseases & hair falling. 50c. and $1.00 at Druggists.

THE CARE OF THE LAWN

A lady subscriber in northern Illinois asks a number of questions. For answer to some of them I beg to refer her to January and February issues of Farm and Fireside. She says she has recently added to her lawn a bit of land about fifty feet square, and she would like to have it covered with blue grass as soon as possible. She would sod it over, but is unable to obtain sufficient sod to do this, and asks how to seed it.

If the addition to this lawn were larger, I would suggest seeding with blue grass and redtop, then mowing with a sharp scythe several times the first season. For a small area I know of nothing better than to cut blue-grass sod into small squares, say two or three inches across, and set them twelve to eighteen inches apart, pressing or tamping them down into the soil, which has previously been made mellow to a depth of three or four inches, then smoothing the whole over.

If the weather is dry they should be watered several times during the early part of the first season. These little sods will spread rapidly and almost entirely cover the area the first season, and will make a perfect sod early the following season.

It must be mowed several times, not very short, the first year. I have mowed these tracts with a sharp scythe rather than with a lawn mower, because the latter cuts too closely. This clipping causes the roots to run farther and the sods to spread more rapidly. In no case should the blue grass be allowed to grow up and mature seed.

As to flower beds on a lawn, they are very pretty if well cared for, but it is next to impossible to keep the blue-grass roots out of them. I prefer to sink an old iron bucket or tub, with lots of holes punched in the bottom, down to a level with the surface, fill it with the richest soil I can procure, and set the flowering plants in it. The grass roots cannot creep in and rob the plants of the moisture they need, and they will grow luxuriantly.

Many people wonder how such plants as geraniums, double petunias, cannas and others can be made to grow so strongly in a level lawn of blue grass without any tile or other edging about them. In these tubs or buckets all one has to do is to keep the plants properly trimmed and the weeds out to have them look as nice as those growing in pots, or in rich soil in the garden. A single small group of flowers growing in a sunken tub on a lawn very often gives it a finishing beauty touch that nothing else will. Such a little group requires but very little care—a minute or two a day. Fred Grundy.

TIMELY CULTIVATION

When the plowed fields have been cleared of the crops they have grown they are not only covered with living weeds, but with myriads of weed seeds. If these seeds are plowed under they are protected in a large measure and enabled to grow in the coming year. If they are allowed to remain, many will unquestionably be picked up by the birds. The policy of the farmer is to allow the birds to have their fill, and at the same time to provide for the destruction of the remainder, as well as of the growing weeds which may trouble him another year.

Where sheep are kept, they may be turned on the stubble land, which they will often clear of the growing plants upon it. Apart from this, however, the policy of the farmer is to set the harrow at work, and to well scarify the surface, slightly burying seeds, which will presently germinate, and tearing up weeds, which by exposure to the sun are soon killed. The help of the flock and of the harrow, therefore, is very beneficial.

Some of the more advanced farmers may be seen harrowing their stubbles while the wheat is yet in the field. This can only be done when it is in shock and when the shocks are in straight rows, the harrow running between them.

By the time the whole of the arable land has been covered in this way, if rain has fallen, the weed seeds first covered by the harrow will have germinated, and may at once be plowed under. There is no harm in the growth of weeds which have been encouraged in this way; on the contrary, there is a great deal of good.

All plants plowed into the soil, whether they be weeds or not, assist in forming humus, and consequently in providing useful matter for the improvement of the soil. The best soils are those which work freely, which contain plenty of decayed vegetable matter for humus, and which from the presence of clay are sufficiently tenacious in texture, and from the presence of sand sufficiently porous. Such soils, however, are not often to be seen, but they can be made in many cases by good farming.

Humus not only contains a large amount of fertilizing matter, which is gradually "yielded up" to the plants, but it makes the soil retentive of moisture, a most important matter in dry seasons; it also assists in warming the soil, and consequently in producing earlier and better crops.

When arable soil has been prepared by such fall cultivation as I have suggested, the first seed should be sown. What seed it should be is for the farmer to determine. As far as possible, soil should never be left unoccupied. To-day no man can allow passable land to be idle. It is much more economical to get in something after the first crop is removed, taking care that the variety selected is adapted to the circumstances of the case.

Vetches may be sown for green manuring, for if this crop is plowed under, the fertilizing matter it contains will sufficiently enrich the land for the production of a good crop of grain next year. Mustard and rape are useful as late sheep feed; these may also be plowed under with advantage upon those soils which are deficient in vegetable matter, such as the lighter sandy or gravelly soils and the heavier clay. W. R. Gilbert.

AGRICULTURAL NEWS-NOTES

Eggs are now dried at a temperature of one hundred and thirty degrees Fahrenheit in containers from which the air is exhausted and from which the vapor is withdrawn as fast as it is given off by evaporation from the eggs. The Farmers and Settlers Co-operative Society of Sidney, Australia, has erected an extensive factory for the manufacture of the egg powder on a large scale.

Hon. C. R. Davis, congressman from Minnesota, has introduced in Congress a bill which advocates such reforms of instruction in our common, secondary and graded schools as will make school work more interesting and of greater value to the pupils after leaving school. This bill is No. 24757, and a copy can be had by applying to Hon. C. R. Davis, House of Representatives, Washington, D. C.

The following figures go to show that foreign countries are more liberal in their annual appropriations for the support of agriculture than is the United States. France appropriated nearly forty million, Hungary nine and a half million and Austria over eight million dollars. In contrast, the United States, whose agricultural interests are many times greater than those of the countries named, grudgingly grants but seven or eight million dollars. Has the time not come for farmers in this country to insist on an increased annual appropriation?

CONGO

NEVER-LEAK ROOFING



Congo on Baxter & Co.'s Saw Mill, Fargo, Ga.

Send for Free Sample—To-day!

DOES your roof leak? Then get Congo.
Congo is the best ready roofing ever offered to the man who is looking for something *good, reliable* and *not too expensive.*

It is called "never-leak" Roofing. This sounds like a big claim to make, but *we know* Congo.

Try it. Cover that old roof, which you have repaired for years, with Congo, and you'll find it the most durable, *proof-against-everything* kind of roofing made.

Economical? Yes, for your bills for repairs on other kinds of roofs in a few years would pay for Congo. It's not affected by heat, cold, rain or snow. It is soft and pliable—like rubber—but infinitely superior because it will not crack, buckle or shrink. Congo will give maximum service at minimum cost. *Cheaper than shingles and will outlast them.*

Isn't Congo worth investigating?

Write for a Free Sample. *Test it.* Soak it in water as long as you like. Water can't hurt Congo. To heat, cold and acid fumes it is also impervious.

Congo is the roof you want. Let us hear from you.

UNITED ROOFING AND M'F'G CO.
Successors to Buchanan Foster Co.
553 WEST END TRUST BLDG., PHILADELPHIA, PA.
CHICAGO · SAN FRANCISCO

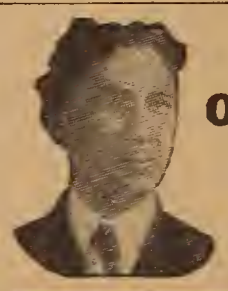
CASH PRIZES EVERY MONTH

are being given away to representatives and agents of Farm and Fireside. In addition to the most liberal merchandise payments ever offered by a farm paper. This is the most liberal proposition we have ever made our readers. Everything is sure, everything definite.

FOR ANY MAN OR WOMAN, BOY OR GIRL

who wants to use spare time profitably, this is the opportunity of a lifetime. No experience necessary. Your time is your own, and we offer **unlimited Merchandise and Cash Rewards.** Write to-day for our free catalogue of 250 illustrations, and a **permanent position,** to

MERCHANDISE PAYMENT DEPARTMENT, FARM AND FIRESIDE, SPRINGFIELD, OHIO



Let Me Pay The Postage on My Big Free Book to You

Although it costs me 8c to mail every one of these Books, yet I'll send you one FREE just because I want you to know about my Celebrated SPLIT HICKORY BUGGIES—Made to Order—Sold Direct from my Factories on 30 Days' Free Trial—Guaranteed Two Years.

Over 125,000 Split Hickory Vehicles are now in use—giving satisfaction in every part of the country.

My Direct Factory Prices save you BIG MONEY. My 1908 Book gives descriptions and prices of over 125 styles of Split Hickory Vehicles and Full Line of High-Grade Harness—tells you how Split Hickory Vehicles are made—and why they are best to buy. Write for the Book today. Address me personally. H. C. PHELPS, President,
THE OHIO CARRIAGE MFG. CO., Station 23 Columbus, Ohio.

H. C. PHELPS President. Write For Split Hickory Buggy Book Today Free



More Pork

Nature has provided the hog with great digestive capacity. It reaches full development and fit market condition in a few months' time. This fact, however, makes the hog an easy prey to indigestion or disease. When we consider the great increase in bulk and weight, (often several hundred pounds), made in a season's feeding, we see the necessity for maintaining the digestive functions of the animal in a normal and healthy condition. Dr. Hess Stock Food, given in small portions twice a day in the regular feed, provides the necessary preventive of disease and the proper aid to a regular and *increasing* power of digestion.

DR HESS STOCK FOOD ATONIC



Increases appetite in all domestic animals. Steers and cows eat more coarse fodder with the grain ration and digest the largest possible proportion of it, the manure showing by analysis a much lower per cent. of lost nutriment than that of animals differently fed. Dr. Hess Stock Food is the prescription of Dr. Hess (M.D., D.V.S.) and contains iron for the blood and nitrates to cleanse the system. Professors Quitman, Winslow and Finley Dun, our ablest medical writers, recommend these ingredients for producing the results claimed. Makes cows give more milk and steers lay on fat. Gives good condition to everything that eats it. *Sold everywhere on a written guarantee.*

100 lbs. $5.00; 25 lbs. $1.60 } Except in Canada and extreme West and South.

Smaller quantities at a slight advance.

Where Dr. Hess Stock Food differs in particular is in the dose—it's small and fed but twice a day, which proves it has the most digestive strength to the pound. Our government recognizes Dr. Hess Stock Food as a medicinal compound, and this paper is back of the guarantee.

FREE from the 1st to the 10th of each month—Dr. Hess (M.D., D. V. S.) will prescribe for your ailing animals. You can have his 96-page Veterinary Book any time for the asking. Mention this paper.

DR. HESS & CLARK, Ashland, Ohio
Also Manufacturers of Dr. Hess Poultry Pan-a-ce-a and Instant Louse Killer.
INSTANT LOUSE KILLER KILLS LICE.

AN ILLUSTRATED FARM AND FAMILY JOURNAL

FARM AND FIRESIDE



LIBRARY
RECEIVED
MAY 30 1908

EASTERN EDITION

Vol. XXXI. No. 16 SPRINGFIELD, OHIO, MAY 25, 1908 TERMS—{1 Year, 24 Numbers, 25 Cents. 5 Years, 120 Numbers, $1.00.

Soy Beans as a Forage and Seed-Producing Crop

By Prof. R. A. Moore of the Wisconsin Agricultural Experiment Station

THE soy bean is a native of southeastern Asia, where it is said to yet grow wild, and forms an essential part of the food for the inhabitants. It was early introduced into Japan, where it derived its name, and is used there principally as a human food.

Professor Georgeson of the Kansas station was largely instrumental in securing seed and getting the plant established in the United States at an early date. The United States Department of Agriculture has in recent years secured choice samples of seed from Japan and sent them to various stations to be tested.

CLASSIFICATION

Soy beans are classified as early, medium and late, in accordance with their maturing tendency, and many varieties are known to each division according to color. All vary in size from a small navy bean to that of a large wax bean.

The writer received his first supply from the United States Department of Agriculture in 1899, and grew them on the station farm successfully the season of 1900. No extended effort had been made to grow soy beans in the North until quite recently, many farmers thinking it impossible to grow the plant except in the extreme South, where it had become acclimated.

VARIETY TESTS

At the Wisconsin station during the season of 1902 tests were carried on with eight different varieties, all of which did well and gave yields ranging from fourteen to thirty-eight bushels of dry beans an acre.

The different varieties of soy beans tested on the experimental plots, with yield of dry beans an acre and other data, are given in the following table:

Name of Variety	Growing Period Days	Yield Per Acre in Bushels	Weight per Meas. Bushels
Ito San	136	33.7	56
Early Brown	136	16.5	56
Medium Early Black	133	14.3	54.5
Medium Early Green	155	22.3	56
Medium Early Yellow	136	39	54
Michigan Green	162	26.7	58
Wisconsin Black	122	23	54.5
Early Black	133	17.3	52

DESCRIPTION

The soy bean is an erect annual plant with branching hairy stems and broad green leaves. It belongs to the great family of plants known as Leguminosæ, and through the action of certain micro-organisms, which grow in nodules on the roots of the plant, has the power to take free nitrogen from the air, which is stored in the plant and gradually enriches the soil on which it is grown. It is also a great drought-resisting plant, and seems to flourish during the hot, dry summer months, when other plants are suffering exceedingly for moisture.

The soy bean is not used extensively as a human food in the United States, its chief use being that of a forage plant and a soil renovator.

More should be known about this plant, as the protein content is so high compared with that of other feeds that it commends itself readily to dairymen and stockmen who desire protein feeds to use in balancing the ration fed to farm animals. At the present time many thousand dollars are annually sent by our dairymen to other states for cotton-seed meal, oil meal, oil cake, bran, etc., to use as concentrates to mix with the bulky and carbonaceous foods. It seems that the soy bean will fill the bill in every respect and can be grown at home.

Analyses of the grain of dry soy beans made by the Wisconsin Experiment Station the season of 1903 gave the following:

Moisture	10.53
Protein	36.25
Fat	16.90
Crude Fiber	4.15
Nitrogen Free Extract	25.97
Ash	6.20

PLANTING AND CULTIVATING

Soy beans thrive best on high, loamy soils, but will grow on any soil that will produce potatoes or corn. The seed bed should be prepared carefully, so as to be fine and mellow. If we desire to mature the crop, the beans should be planted in rows with a hand or grain drill about corn-planting time, using approximately one peck of seed to the acre. The rows should be thirty inches apart, and the beans should be about two inches apart in the row.

Where the desire is to grow the largest amount of dry beans or hay to the acre use the early maturing varieties; if the desire is to grow them with corn, to use the plant for silage purposes, the medium or late varieties should be used. Where used for silage we plant with a corn planter, using one third soy beans and two thirds corn.

Soy beans should be cultivated between the rows the same as corn and approximately at the same time. Usually three cultivations are sufficient, as the broad leaves of the plants spread over the ground to such an extent that weeds are kept down effectually. Where the desire is to grow soy beans for hay they should be sown broadcast, using one and one half bushels to the acre.

HARVESTING

For soiling purposes or for hay the plants should be cut when in blossom, but where the desire is to thrash them to secure the seed they should be fairly well ripened. Soy beans can be harvested with scythe, mower or bean harvester. Where only a small area is grown, they can be pulled by hand or cut with a corn knife. After cutting it is well to let the beans lie in shocks or windrows for several days before thrashing. If the beans are thoroughly dry they can be thrashed nicely with any thrasher. Blank concaves should be used to prevent splitting of the beans. Where soy beans are planted on a piece of land that has never before grown soy beans, it is well that the soil be inoculated with bacteria that will produce the nitrogen nodules on the roots of the plants. This can be done by securing soil from a field that has grown beans for several years, and scattering it at the rate of two hundred pounds to the acre upon that portion of the area desired to plant to beans. A good inoculation can be obtained by merely mixing equal quantities of bacteria-laden earth and soy beans and planting the mixture. The roots of the plants growing upon that portion of the field where



SOY BEANS AT THE WISCONSIN EXPERIMENT STATION FARM. COW PEAS IN THE FOREGROUND

"Forestry"—in Forthcoming Issue—by Hon. Gifford Pinchot, U. S. Dept. of Agriculture

the inoculated soil was scattered or where the beans were mixed with the earth will be found to have the nodules attached to the roots in abundance, and their absence will be noticed in the field not inoculated.

FEEDING

From tests made by the experiment stations and individuals in the Northern states it has been found that soy beans can be grown in approximately any latitude where corn will mature, and with the corn plant will form an excellent ration to feed farm animals.

Professor Humphrey and Mr. Fuller at the Wisconsin station conducted a pig-feeding experiment in the season of 1906, covering a period of twelve weeks, in which soy beans were fed as a part ration.

The summary of their work is herewith given:

Soy-bean meal makes an excellent supplement to corn meal for growing and fattening pigs.

Soy-bean meal is from three to ten per cent more valuable than wheat middlings for economical pork production when the cost of the two feeds is the same.

Soy-bean meal mixed with corn meal in the proportion of one to two produces greater gains than wheat middlings and corn meal fed in the same proportion.

In feeding equal amounts of the two rations, soy beans and corn meal supply a slightly higher per cent of dry matter and digestible matter than wheat middlings and corn meal.

For firmness, fine grain and texture of flesh, and even distribution of fat and lean, the ration of wheat middlings and corn meal is superior to that of soy beans and corn meal.

FOR HOG PASTURE

Soy beans make a good hog pasture, and pigs take to the beans quite readily after becoming accustomed to them. The pigs should be turned in at the time the beans are fully developed, and will harvest them to advantage, converting the soy beans into pork. It is well to have a rape field or grass pasture near at hand, so that hogs can have access to the same, as they do much better where they can select a mixed ration than when pastured alone on soy beans.

POULTRY FOOD

Wishing to know the value of soy beans as a poultry food, several bushels of beans were sent in the spring of 1907 to C. E. Mattison, Pewaukee, Wisconsin, for feeding purposes. Mr. Mattison is one of our leading poultrymen and is on the state institute force. The following is a detailed report as given by him after using the beans:

"I commenced to feed the beans the same as grain. The fowls did not take to eating them very readily at first, but I was not discouraged, for I have found that where an abrupt change of food is made (especially something fowls have never eaten as a regular ration) it requires a little coaxing to get them to partake of the desired amount. Hence, I took the beans to the mill and had them cracked, and I found that the hens took to them more readily. I fed them alternately with the grain that they had been accustomed to get, making no change in the amount of animal food they were receiving. But I soon discovered my mistake. The dropping board showed that I had caused looseness of the bowels by feeding too much animal food. I had failed to allow for the large amount of protein in the beans. I was giving them blood meal as an animal food (a very strongly nitrogenous food), and this, together with the beans, made an unbalanced ration consisting of too large an amount of protein. I at once decreased the amount of blood meal, giving only about twenty-five per cent of the amount I had formerly supplied them, and the looseness of the bowels disappeared.

"With this system of feeding, the hens laid remarkably well and the egg fertility was of the best. The chicks hatched from those eggs were as strong and vigorous as any I have ever had.

"Another noticeable fact was that in pens where soy beans were fed the hens showed little desire to become broody. This part of the experiment I considered was valuable, especially for those who raise the American and Asiatic breeds. The desire of these breeds to sit is quite strong, and often hard to overcome, and for this reason a less heating, carbonaceous ration should be fed. Soy beans supplied such a ration.

"So, in conclusion, I found that in feeding soy beans as part of a hard-grain ration at least seventy-five per cent of the full amount of animal food can be saved, which is an actual saving in the real cost of feeding. The beans can be raised on our farms and can be easily kept for use at any season of the year.

"My fowls that were fed these beans were very healthy and laid an egg almost every day. They were up to full standard weight and had little desire to sit."

If the ground is inoculated, soy beans can be grown on sandy and worn-out soils. They are a great renovating crop, and where nodules develop on the roots, abundantly supply considerable fertility to the soil.

From tests made at the station and elsewhere in Wisconsin we are able briefly to note the following:

1. The early varieties of soy beans can be grown as grain and forage plants in most portions of Wisconsin.

2. A rich sandy or light clay loam is preferable for growing soy beans.

3. If put on light sandy or worn-out soils the land should have scattered upon it, for inoculation purposes, ground taken from a field that has grown soy beans for a series of years. This should be done in order to have the plants develop the nitrogen nodules upon their roots.

4. Any ground that will grow good corn may be considered good land for soy beans.

5. When the medium varieties of soy beans are sown with corn, using one third soy beans and two thirds corn, a fine grade of silage or fodder is obtained, and the beans do not seem in any way to interfere with the corn.

6. Best results in feeding dry beans are obtained where the beans are cracked or ground into coarse meal.

7. Nearly all farm animals eat soy beans readily as a grain or forage, and do well upon them.

BE AN EXPERT

A young man asks, "What would you advise a young man raised on a farm, who cannot stand the dust of haying and thrashing, and is most too light to do heavy farm work, to do?"

Gardening, floriculture, poultry raising, civil engineering—all are good. If he is built for an expert, there is landscape gardening, inside decorating, and a number of other good occupations open to him.

The young man who is built for an expert—that is, one who is naturally bright, careful and painstaking—will succeed in any of the above or in almost any other occupation. He will have to learn the business he selects.

I will here add that he cannot learn any of them from a "correspondence school." He needs a practical instructor who can show him; and the way to become an expert is to begin at the bottom and work up, thoroughly learning all the details as one goes along. The expert is always in demand, and he commands the top wages.

Whatever vocation a young man goes into, he should be thorough as he goes along, always keeping his eyes open for better ways of doing the work he has in hand. All vocations are crowded with ordinary workers, but there's still lots of room in the upper ranks.

FRED GRUNDY.



SHOWING THE DEVELOPMENT OF NODULES ON THE ROOTS OF SOY BEANS AS THE RESULT OF INOCULATION OF THE SOIL WITH THE PROPER BACTERIA. THE PLANT ON THE LEFT GREW ON SOIL THAT WAS INOCULATED, AND THAT ON THE RIGHT ON SOIL THAT WAS NOT INOCULATED

The Up-to-Date Farmer

THE up-to-date farmer knows the value of being up to date. He knows that new discoveries in the various sciences related to agriculture reveal new relations and suggest better methods. He knows that many of the theories held, and many of the methods practised years ago, and some even now, are worthless. He knows that one farmer cannot make as many experiments as can a thousand men.

He reads books on farming, and does not scoff at the book farmer, nor does he refuse to listen to the college professors; for while he has great respect for the students of agriculture, yet he knows that the time has not come, and never can come, when agriculture shall be reduced to a rigid science, which shall be governed by a code of rules and laws as are such sciences as chemistry, physics, and the like.

He knows, happily, that there is one vocation in which men engage that can never be bounded by methods or tied fast by precedents—one occupation that is as elastic and untrammeled and as unconventional as the blowing of the wind, the falling of the showers and the singing of the birds. He knows that farming is a business and an art founded upon the interrelation of many sciences, of which chemistry, botany, physiology, physics, bacteriology and climatology are chief.

SCIENCES AND BUSINESS METHODS MUST BE CO-ORDINATED

He knows that these sciences, and also others, and likewise good business methods, must be co-ordinated by wise judgment and skilful management to accomplish success in farming.

The up-to-date farmer subscribes, and pays his subscription, too, for those stock papers, farm papers and horticultural papers which treat of the matters in which his business interests lie. He attends the various county and state institutes, both to hear the experience of others and perhaps to tell his own; and also that he may make acquaintances among other farmers. Thus he overcomes the effect of his more or less isolated life upon the farm, and gets new zeal for his vocation, and added wisdom and energy to push forward his various enterprises to greater success.

The up-to-date farmer keeps no unprofitable stock. His hired men do not waste their time following a team that can do anything less than a full team's work. His steers and his hogs all pay well for the food he gives them. He knows a steer that is not a good feeder, and lets some other man waste feed upon him. He tests his cows, and only those that can be kept with good profit can lie down in his green pastures. Nor will he permit his wife to keep a flock of nondescript, flying, scratching, green-legged, black-skinned hens, even if her mother did give her the seed. He cannot bear the disgrace of it.

Of course, the up-to-date farmer has the latest-improved farming implements, and to save horse power and to do most efficient work, always keeps them in perfect order. He does not use a plow that will not scour, nor one that is dull, nor one whose adjustment is such that three horses must work hard to do the work which two could easily do with a plow properly adjusted. He understands the application of force to all his farm machinery, so that the greatest amount of work is accomplished with the least expenditure of power. When his farm implements are not in use he keeps them well housed if it is profitable to do so. A one-hundred-dollar wagon shed into which a twenty-five-dollar farm wagon is backed by hand every time the team is unhitched is not profitable.

The up-to-date farmer pays his debts. Not the least important of these is the one he owes to the soil. He knows that each crop which the soil yields takes from it something of its fertility, and that unless this fertility is returned to the soil it can soon yield only a diminished crop. So he is very careful year by year to pay back to his land that fertility which the crop has taken from it. He knows many ways of doing this, and the one which he will adopt will depend upon the neighborhood. He knows that he can run a dairy, and when he sells off a ton of butter, worth perhaps five hundred dollars, it will impoverish his farm no more than to sell off five or six hundred pounds of straw worth about one dollar.

He will keep his hired help all the year and year after year, for the longer they are in his employ, the more valuable they are to him, and the more he can afford to pay them. He will buy more food than he sells—will raise all the feed he can for his stock, and will not hesitate to buy more when needed.

If he is wise in the management of the fertilizers from his barns and feed lots, and wise in their distribution upon his meadows and pastures, and wise in sowing clovers for his corn land and among the grasses of his farm, he will in time greatly increase its fertility.

The up-to-date farmer will be a botanist, understanding the structure of the plant and of its bud and blossom; for from these come the fruit, and here frequently is the beginning, sometimes a year in advance, of the destruction of his crop. He must also be an entomologist, and must have a fighting acquaintance at least with a considerable number of the insect enemies of his orchard and garden, and must know how to minimize their injury if they succeed in making a lodgment. Also he must know how much his crop is worth. And if he concludes to market his crop himself, he must know how to gather it, and mark his packages honestly, so that the future buyer will not think that his fruit was hand picked with a club or a long pole.

Inside the house, even the first glance will tell what degree of up-to-dateness the farmer has reached. There will be no odors of vegetables or of fruits coming from their storage places, but the air within the house will be as pure as the air outside. Every room will be light and airy. Light is the best bacteriacide. The kitchen will be near to the dining room and the pantry, and will be arranged to save steps, and the men will not sit around in the way, for a warmed and suitably furnished room will be provided for them elsewhere.

The up-to-date farmer will look after the education of his children, because he believes farming is the most useful and most honorable of all vocations, because its rewards, though rarely extravagant, are yet more certain than those of any other calling. When spring comes, the school of the up-to-date farmer's children will have a garden. In this garden the various vegetables and smaller fruits can be raised, as well as the larger fruits, such as apples, pears, plums, and the like. Here can be learned not only the methods of cultivation, but many things that pertain to the growth of plants, as to how they grow, and whence comes the material for their growth; also the uses to the plants of their various parts, as of root, stem and leaf. The names of the various parts should be known to the child as well as the names of the features of his own face. The reason why insects visit plants, and what insects are injurious and what are beneficial, should be taught the child, for he will have to combat with these things in future years. The up-to-date farmer does not want his children taught that all knowledge is contained in books, but that very much of it is still out of doors; that it can be found in the field and by the roadside; that the great book of Nature is full of truths for man, and he believes it the duty of the rural schools to teach pupils to read this book, and to love its story.

R. B. RUSHING.

Plain Sections and Fence Separators

ANY one who has seen honey in sections knows that two, and sometimes all four, sides of the wood have incuts that serve as beeways. For ten or twelve years now "plain" sections (without the beeways) have been used by both amateur and professional apiarists.

This kind of section possesses some advantages over the beeway kind. Of course, as always is the case with two or more contrasting contrivances, there also are disadvantages. However, the advantages must outweigh the disadvantages in the minds of most apiarists, for the plain sections have been steadily gaining in favor among practical bee keepers.

Plain sections are quoted at twenty-five cents a thousand less in price than the beeway kind. For large comb-honey producers this is worth considering. The reason for this reduced price is that less wood is required, for, as the beeways are made in the section separators, or "fences," as this particular form of separator is called, the sections need not be as thick as those of the beeway kind to hold the same quantity of honey.

ADVANTAGES OF PLAIN SECTIONS

This reduced thickness of the sections results in thinner comb as compared with that of the standard beeway sections, which are one and seven eighths inches thick. Honey ripens sooner, or rather the bees can ripen it better, in thin comb. This is of much importance, for comb honey to have the pearly whiteness of the cappings retained must be filled and sealed quickly, and of course be removed soon after the cells are sealed.

For comb honey to sell at its best, the wood (sections) must be scraped clean of propolis. This work is more easily and quickly done with plain sections. When scraping propolis out of the beeways of beeway sections, the operator is likely to run the scraping knife into the comb. Such a section then is unsalable. The injured comb can be cut out and sold as chunk honey in the home market, but at a reduced price.

Beeway sections when used on wooden section holders require those of the "scalloped" kind—that is, the bottoms of the holders have incuts to correspond with the beeways of the sections when the latter are set on them. This kind of holder must be cut out with machinery at a beehive factory, but those for plain sections can be made by the apiarist with common tools. Of course, this is of no importance to the one who purchases holders, but to one like the writer, who prefers to make as many as possible of the apiarian supplies, it is worth something. I have made section holders for plain sections from dry-goods box lumber of the right thickness. As the work was done during spare time in winter, I saved cents and dollars, too. Had I used beeway sections I would of course have had to purchase the section holders.

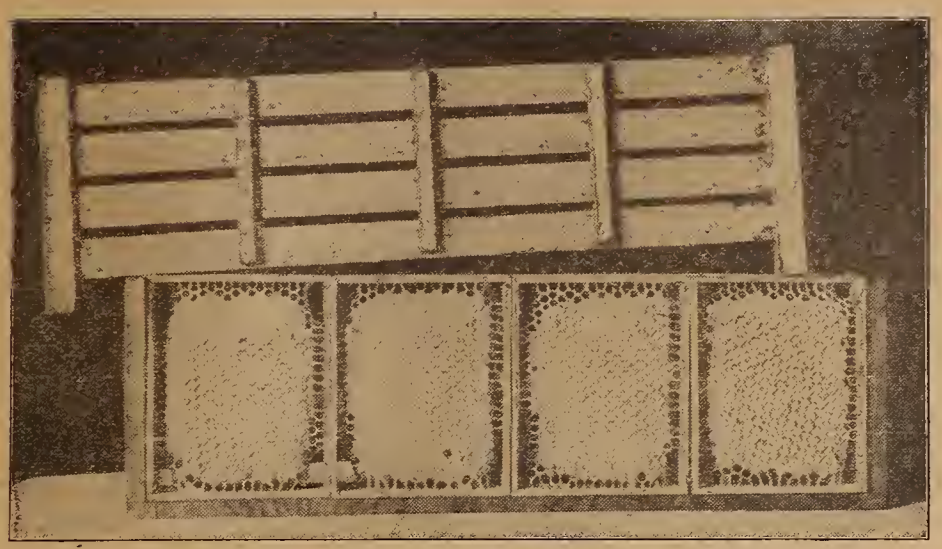
A NEW FORM OF SEPARATORS REQUIRED

As the bees could not enter if the plain sections were wedged together in the supers, a different form of section separator from those in use with beeway sections had to be devised. The brains of different apiarists worked out the present "fence" separator. As will be seen from the accompanying cut, which really describes the fence separator more lucidly than I can do with words, it resembles a board fence.

FENCE SEPARATORS SHOULD BE CAREFULLY MADE

Fence separators must be made very exact for good results. If the openings between the "boards" of the fences are wider than a bee space (one fourth of an inch), the bees will lengthen the rows of cells running parallel with the openings in the fences. This results in the sealed comb surfaces having an uneven, or what has been termed "a wash-board," appearance. The simple fact of the comb surface being uneven does not detract from the commercial value of the honey, but sometimes the rows of cells will be lengthened enough to project above the wood of the sections. In such cases the cells will be mashed when sections are packed in shipping cases, and the appearance of such honey will be down to the lowest notch. This, however, really is not a fault of plain sections, but the manufacturer of the fences is to blame. The way to overcome this trouble is to purchase the fences from manufacturers that make them perfect.

With the advent of plain sections was also introduced a section taller than broad. The most popular size is one four by five by one and three eighths inches. From long association with things longer one way than the other, such as doors, windows, and the like, a section taller than broad is considered more artistic. Some advocates of the time-honored four-and-one-fourth-by-four-and-one-fourth square beeway sections argue that, other conditions being equal, the honey stored in a square section is just as good to eat as if it had been stored in tall, plain sections. Quite true this is, and yet plain sections of the same weight will in some markets sell for several cents a pound more. This is more true of markets in Eastern cities, where vegetables and other rural products almost always sell at a fancy price when put up in an attractive, though expensive, manner.



PLAIN NO-BEEWAY SECTIONS AND FENCE SEPARATOR

THE QUALITY OF A FOODSTUFF IS JUDGED BY APPEARANCE

Appearance is what sells many commodities, even though the intrinsic quality may not be up to a better product put up in unattractive packages. The consuming public always judges the quality of a foodstuff by its appearance. There is a striking example of this in the Ben Davis apple, the quality of which is below that of many other kinds, yet it always sells well on account of the fine rosy appearance of the skin. If the consuming public, for this reason, is willing to pay more for honey in four-by-five plain sections, why, let the apiarist pocket the money.

Another advantage of "tall" sections should be mentioned: In comb building bees always proceed faster downward than sideways. Now, for this reason, a section higher than wide conforms more to the natural ways of the bees. The comb appears to be sealed more evenly than in a square section. When the two kinds of sections are compared side by side, the square kind have more of a "lean" appearance—do not look as well filled as do tall sections.

As tall, plain sections are being used more every year, they must possess real merit.

F. A. STROHSCHEIN.



CHARACTERISTIC SOY-BEAN PLANTS. THE PLANT ON THE LEFT HAS LEAVES REMOVED TO SHOW PODS

WESTERN NEW YORK FRUIT REGIONS

MIXED PLANTING

At the last meeting (January, 1908) of the New York State Fruit Growers' Association at Syracuse, Senator Henry M. Dunlap, of Illinois, a fruit grower of experience and reputation, spoke of the effect of cross-pollination of the apple, trying to show (what I believe to be the fact) that not only pears and various other fruits, but also most of our apple varieties, will be more apt to bear full crops when varieties stand intermixed than when standing in solid blocks of just one variety. We have often been at a loss how to account for the failure of a block of apple trees, say Baldwins, to bear fruit when not very far away a single tree or row of trees standing near a block of other varieties was simply loaded down with apples.

In the official report of the proceedings, just issued, I find that some comments of mine made on this subject at the same meeting were completely distorted. I referred to the observations of Mr. Wier, then of Illinois, and a contributor of FARM AND FIRESIDE at the time. He found, for instance, that a Wild Goose plum tree standing singly in Illinois (or elsewhere North) would absolutely refuse to set fruit, but would bear heavily in the South, but when in close vicinity of other plum varieties it would also bear freely in the North. In the congenial climate of the Southern states Wild Goose pollen seemed to become fully developed or matured so as to fertilize the fruit blossoms and make the fruit "set." In northern locations this did not seem to be the case, and the co-operation of pollen from another variety appeared to be necessary to make the tree productive.

In this vicinity the Bartlett pear usually bears full and heavy crops. It has not made much difference in ordinary seasons whether this pear had been planted in solid blocks of the one variety only or intermixed with other sorts. But then came the season of 1907. Our Bartletts bloomed as freely as ever, but in many orchards the crop was very light and irregular. Evidently the season had not been favorable for the ripening of Bartlett pollen. At any rate, it failed to fertilize the blossoms on trees of the same variety, and Bartletts, being usually planted in solid blocks, gave a light crop. It seems to be an observation of very general application. Pears, apples, plums, peaches, grapes, etc., may bear freely even when planted in blocks of a single variety, provided season and conditions are favorable. But it is not an absolutely safe calculation. Last fall wherever I found a Bartlett pear well loaded with fruit I also saw a tree or trees of other sorts of pears close by.

Planting fruit trees, etc., in large blocks of one variety leaves a chance for failure. The right way is to have varieties intermixed, just as we must plant perfect sorts of strawberries near imperfect-blooming ones in order to insure full fruiting.

SOD OR CULTIVATION?

Shall we keep our orchards in sod? Shall we mulch the trees? Must we give them clean culture? These questions have been freely discussed at the fruit growers' meetings during the past years. And still they are not yet fully settled.

Professor Hedrick of the Geneva, New York, station, made at the last Rochester meeting a strong and telling plea for tillage and against sod mulch. In these days, however, it should hardly be required to offer a defense of clean and thorough cultivation. I cannot think of any crop except weeds that would not do better under cultivation than under neglect. If we think fruit trees are different in these respects from other crops, let us ask the trees. For instance, if we examine apple, pear or plum trees in early fall, we find that the tree in sod has made a comparatively weak growth of new wood; that the foliage looks yellowish, sickly; that the fruit, if abundant on the tree, is small or medium sized, and frequently very wormy. Then ask the tree that has been kept under clean cultivation. See the thrifty growth of new wood, the large, healthy foliage of darkest green, the large fruit, etc. Indeed, I believe the tree tells its own story, and so does a grape vine, a currant or gooseberry bush, etc.

Here in this fruit section we have learned our lessons. We know that the only way to raise good, large Bartlett pears that the canners are after is to keep the trees under perfectly clean tillage, and keep the ground well supplied with plant food. It is true that in a pinch we can raise apples on trees in sod, sometimes even very good ones, but the full crops of good-sized fruit, the clean apples that will sell when apples from sod orchards cannot find a buyer, come from orchards that are tilled and from trees that are sprayed.

Many farmers who only incidentally raise a few apples leave the trees standing in sod, and cut the grass for hay without ever thinking of making any return to the soil for the considerable amount of plant foods taken off with the hay. This is the worst possible plan that can be adopted. It may be a "cheap and easy way of growing apples," but it is also a sure way of growing cheap apples. In these days we must grow apples that are in ready demand, and it is only the A No. 1 fruit that ever is in ready demand, at least at paying prices.

T. GREINER.

JINGLES FOR FARMERS

Farmer Hustle has money to lend,
And is daily adding to his store;
Farmer Shiftless has none to spend,
And he is surely growing poor.

The smoker smoked in the farmer's barn;
Thereby hangs this sad little yarn:
His barn and stock went up in smoke,
And the farmer's heart is well-nigh broke.

M. L. PIPER.

A BLUE MARK

in the square below indicates that you are an old subscriber and that *your subscription has expired.*

Renew at once, and get the 500 pictures of President Roosevelt, together with the solution of "The Mysterious Mr. Roosevelt" Puzzle, which will appear in the June 10th issue.

Review of the Farm Press

THE SOIL FOR ALFALFA

Land with a natural drainage and with a depth of good soil has an advantage. One season with another clay ground is better than black ground. Some very thin soils in Kentucky have succeeded where they have allowed the weeds to grow up and fall down for a few years, thus adding the needed humus. A soil even though poor will often start alfalfa if taken while a virgin soil. The main thing after getting a dry soil and a sweet soil is to stimulate the plant until it can become established.

On most farms in Ohio barn-yard manure should be the keynote. Nitrate of soda on worn soils and phosphates are the proper commercial fertilizers.

Nitrate of soda is very expensive, and where manure is to be had it is preferable for several reasons. For one, the manure softens the ground and holds moisture, and also it assists to take care of the inoculation. All seed contains a small per cent of the proper bacteria, and introduced where there is plenty of manure, these bacteria multiply very fast. Artificial inoculation has not always been a success. We never practised it here. We didn't know enough to do so when we started growing the plant. Inoculation by means of earth from successful fields should be a success, but it is rather expensive, too. Most conscientious farmers hate to accept money for earth, and cannot afford to handle it without compensation.

Most farmers quit trying to grow alfalfa just when they should have reason to hope for success. Alfalfa succeeds better after alfalfa or on fields where the manure hauled has been alfalfa manure. Few have as good success with alfalfa right at the start as they may expect later on if they will just stay with it. This is just as true of clover growing. The man who raises corn and oats and wheat too long on a given piece of land may be surprised to find that he fails in securing a clover stand unless the season be just right. This should be a danger signal to him, and he should make a determined effort to get back to a clover basis.

A practical way to start alfalfa will be to mix some alfalfa seed with your other grass seed, and thus without being in any danger of failing entirely on a grass crop be quietly taking care of the inoculation. It does more than this. The roots of plants that live go down deep into the subsoil and possibly through the "pan" at the bottom of the furrow and a lower streak of impervious clay into the gravel below. Should this be the case when these roots are next cut with a plow, and rot out, capillaries are formed, allowing better drainage and better aeration, helping the land for better crops of any kind.—Willis Wing in The National Stockman and Farmer.

◈

SPRAYING

Spraying at the present time, while it does not solve all the problems of the orchardist, is one of the essentials of good fruit production. The fruit grower should know very definitely what he wants to spray for before going into the orchard with a spray pump. Fletcher says, "Indefinite rule-of-thumb spraying rarely pays. Know what you are spraying for; know its life history, so that you can spray at the right time; then spray to hit the mark." There are one or two troubles, however, which are difficult, if not impossible, to control by spraying alone. Among these are the fire blight of the apple and pear, peach yellows, rosette and little peach. When any of the last three appear, the affected trees should at once be cut down and burned.

The appearance of fire blight is characterized by the sudden dying and turning brown of the ends of the twigs, so that they look as if scorched by fire. The disease is caused by a germ and is difficult to control by spraying. The most successful treatment is preventive, rather than curative, and consists in keeping the trees growing slowly so that the wood is thoroughly ripened. The disease is usually far worse in rapidly growing orchards, as it finds the tender, sappy wood especially favorable to its development. Some varieties, especially of pears, are apparently more resistant than others. Bartlett and Clapp seem to be especially subject to it; while Kieffer and Tyson, though not immune, are more resistant.

The greatest possible thoroughness of application is essential for effective spraying. It costs much more to do a poor job than to do a good one, for a good job more than pays for itself in the improved quality of the fruit, while poor spraying is time and money thrown away. A word may not be amiss as to the mechanical condition of the spray most desirable for economy and efficiency. All liquid sprays should be applied to the plant in as finely divided condition as possible. The nearer it approaches the condition of a fog or mist, the better. To secure this effect, a good nozzle and high pressure are necessary. For orchard work, extension rods are also necessary. These are preferably of bamboo lined with brass tubing, and are light, rigid and durable. For high trees, some sort of scaffold or tower on the spray wagon is necessary for the man to stand upon who holds the spray rod.—Purdue Station Circular No. 9.

◈

MANURIAL VALUE OF STRAW

Many farmers regard straw of the cereal grains of but little value. Some even do not think it worth applying to the soil as a manure, and unless it is needed for bedding it is often the case that the wheat, oat and rye straw is left to decompose in a heap in some out-of-the-way place.

This is a mistake, as the straw contains enough fertilizer a ton to cost several dollars if bought in a commercial fertilizer. While the fertilizer elements are not so available as those found in the commercial article, yet the straw furnishes humus to the soil, which is an advantage that the commercial fertilizer does not possess.

According to analysis given in Warrington's "Chemistry of the Farm," straw contains the following fertilizer elements to the ton:

	Nitrogen Pounds	Potash Pounds	Phosphorus Pounds
Bean straw	26	38.8	5.8
Oat straw	12.8	32.6	5.6
Barley straw	11.2	21.4	3.8
Wheat straw	9.6	12.6	4.4

If we take wheat straw, which contains the least amount of fertility a ton, and calculate its value at the rate usually charged for commercial fertilizer, we have as a result:

9.6 lbs. of nitrogen at 15 cents a lb..	$1.44
12.6 lbs. of potash at 5 cents a lb....	.63
4.4 lbs. of phosphorus at 5 cents a lb.	.22
Total.....	$2.29

This is $2.29 a ton for the direct plant food furnished the soil. Then we may reasonably expect as much value to the soil from the humus added as from the plant food added.

If we calculate the value of the bean straw at the value of the elements at the price charged in commercial fertilizer we have:

Nitrogen content a ton.....	$3.90
Potash content a ton.....	1.94
Phosphorus content a ton.....	.29
Total plant food in a ton of bean straw	$6.13

But some will object to calculating the value of the fertilizer in the straw in this way, since it is not at once available for crop growth.

But if it is applied to the soil it will become available. What the crop does not get this year it will next or the next. The fertilizer is in the soil in a good form to furnish a regular supply of plant food when it is needed.—A. J. Legg in The American Farm World.

◈

DODDER AN IMPORTANT IMPURITY IN SEEDS

The seed of dodder becomes an important impurity of commercial seeds both on account of the injurious nature of the plants and the fact that they occur in nearly all the regions where clover, alfalfa and flax seeds are produced. The size and weight of the dodder seeds and the period of their maturity agree so closely with those of red clover and alfalfa seeds that their presence in the seed crop is practically sure to follow the occurrence of maturing dodder plants in fields devoted to these crops. The same is true of flax seed which has not been especially well cleaned.

The extent to which dodder may infest clover and alfalfa seed is indicated by the fact that of five hundred and twenty-one samples of red-clover seed secured by the seed laboratory in the open market in the spring of 1906, one hundred and sixteen samples contained dodder. Again, of three hundred and fifty-two samples of alfalfa seed, one hundred and sixty contained dodder.



Field Dodder on Red Clover; *a*, Flowering Cluster; *b*, Cluster of Dry Seed Vessels

Clover and alfalfa seeds as sold to farmers have frequently followed a devious course from the grower to the consumer, and are especially likely to represent a mixture of lots from different places of production. If one ingredient of such a mixture is infested with dodder the whole becomes contaminated. Not many dodder seeds may occur in a particular lot bought by a farmer, to be sure, but owing to the peculiar nature of the dodder plants a single live dodder seed in a field is a menace to the entire crop.

It is very important that the farmer purchasing clover, alfalfa or flax seed be qualified to determine for himself whether dodder is present, because it usually is not conspicuously abundant and may escape the notice even of the most conscientious dealer.

DETECTING THE DODDER PLANTS IN THE FIELD

It has been shown that notwithstanding every precaution against the introduction of dodder, seeds may find their way to the field in the seed used. The ultimate control of the plants may depend upon early efforts to discover and destroy them. This is particularly true if the plants appear in few places in the field.

The proper time to destroy the plants is before rapid branching enables them to reach many host plants. Then every firm hold of the dodder suckers becomes a point of independent growth, and the difficulty of reaching all of them is greatly increased. New seedings, therefore, should be carefully examined for this pest.

Under favorable conditions the dodder seeds germinate but little slower than seeds of clover and alfalfa. The young plants therefore appear at about the same time as the clover. Their discovery in the seeding at first is practically impossible. By the time the crop is six or eight inches high the dodder will have branched sufficiently, as a rule, to render its presence noticeable for a short distance. This permits removal of the plants with the least loss to the stand and with the most likelihood of success.

DESTROYING THE PLANTS

When failure to prevent the introduction of dodder seed occurs, the destruction of the plants becomes the final resort. The questions of success and the extent of the necessary damage to the crop at once arise. Their answers rest with the kind of crop infested, the stage of development of the dodder, the extent of the attack, and the methods of eradication employed.

The problem of dodder control is strongly influenced by the character of the crop infested. Red clover remains but two, or at most but three, years without reseeding. If the dodder is prevented from seeding it should be eradicated within this time, or at least should not interfere with the course of crop rotation. Alfalfa should remain indefinitely, and if dodder reseeds itself its control becomes much more difficult or impossible.

If the dodder occurs only in patches in the field it usually can be controlled by hand methods. If it covers the greater part or all of the field, plowing under the stand will probably be found necessary. It then becomes important to know how far the crop can be utilized without reseeding the land to dodder.

It is first important to gain control before the plants have spread far from the point of attack; secondly, and of greater importance, they should be subdued before they produce seed. Success therefore depends very largely on early discovery of the plants, followed by immediate work in subduing them. Thoroughness involves the destruction of every living piece of dodder stem lying within its own length of a host plant.

Cutting and burning infested plants and spraying them with copper sulphate or iron sulphate are methods which have been employed. Spraying has not proved successful as a rule, owing to the impossibility of thoroughly wetting every part of the dodder stems under field conditions. The plants have appeared to be destroyed, but a sufficient number remained to continue growth after receiving a temporary check. Burning is successful when thoroughly done. This may or may not destroy the crop roots. The burning may take place on the infested spot or the cut plants may be removed to be burned elsewhere. Burning on the spot is an advantage, on account of its destroying dodder missed in cutting and seeds which have fallen. Burning endangers the life of the roots of the crop, however. The removal of infested plants to another place requires great care to prevent any of the pieces of dodder falling on the crop and establishing new centers of growth, and the use of sacks or some similar means of removal is advised.

An infested stand of clover or alfalfa may safely be allowed to produce a crop of hay or to be used for pasturage or for soiling, provided the crop is removed before the dodder produces seed. The removal of a bulky crop aids in the complete covering of the stubble, which is important. Plowing should follow immediately after the removal of the crop; otherwise, mature dodder seeds will be buried and possibly prove troublesome on again being brought to the surface.

Dodder is not poisonous to stock. Hay carrying dense bunches of it is usually pushed aside by stock.—Farmers' Bulletin No. 306.

Fruit Growing

BY SAMUEL B. GREEN

MAKING DWARF APPLE TREES

C. H., Seattle, Washington—There is practically no way of making dwarf apple trees out of the standard kinds. It is possible to do so, but it requires so much care that it is not worth while to attempt it. In your section apple trees generally come into bearing sufficiently young, and little is to be gained by any treatment looking to bringing them into bearing earlier than is natural with them.

However, as an experiment along this line. you might try the following: Early in June, with a cross-cut saw cut just through the bark on the trunk of your apple trees and into the wood a very little in a spiral direction, going completely around the tree to a point about two inches below where you start. This makes a break in the flow of sap, which will result in checking the growth on the tree and throwing it into flower. In this way you would probably secure a few apples next year from these small trees. It is, however, a poor plan to adopt, except with varieties that are growing thriftily and fail to come into bearing at the proper time.

There is practically no good method of dwarfing the Royal Ann cherries and Yellow Egg plum, except by obtaining them worked on some dwarf-growing tree. In this case the cherry would be dwarfed if worked on the mahaleb stock, and the Yellow Egg plums would be dwarfed if worked on the sand cherry.

GRAPES ROTTING

K. M., Springfield, Kentucky—I think your grapes are affected with what is known as brown rot. This is a fungous disease that is found generally throughout the country. It is especially injurious in situations where the vines are much shut in, so that they do not get a good circulation of air or perhaps the full sunlight.

I take it the reason why your vines are more often injured than those of your neighbor's is because they are of a different variety or your location is inferior to his in the point noted. I am inclined to think your vines do not need manure, as a large amount of stable manure put about the vines is apt to encourage an increase of growth, and the wood is then soft and kills back badly in winter. If the vines are making a good growth, so that the arbor is well covered each year, I would not stimulate them to further growth by the use of manure. Such use of manure, rather than having the effect of preventing rot, will more likely encourage it.

I think it would be a good plan to cover the large roots of your vines that are near the surface of the ground, but this is not absolutely necessary, as frequently vines fruit for many years with some of their main roots uncovered.

In commercial vineyards it is customary to spray with Bordeaux mixture for the prevention of this disease. In the case of a small arbor, however, such as you have, I think the best treatment would be to put paper bags over the bunches. You will find this is not a difficult matter, and it practically insures your having good fruit.

To do this successfully you should use one-pound paper bags, such as can be obtained from any grocery store. Take the bunch of bags and cut off about one fourth of an inch of one corner. This can be done easily by using a sharp knife while the bags are still together in the bunch. This is done for the purpose of allowing any water that may get into the bag to run out. The bag should be slit down on each side to a distance of about one and one half inches.

As soon as the grapes are out of flower, or if the vines are of the common kind, such as Concord, Worden, Catawba, etc., the work may be done while they are yet in flower. The bags should be drawn up over the bunches, and around the branch from which they grow, and the top folded over about one half inch and one pin put in to hold it in place. Sometimes two bunches may be put in one bag to advantage. If this work is done early, at the time stated, I think you will obviate almost entirely any loss from rotting.

LATH HOUSE FOR PLANTS

F. W. B., Evanston, Wyoming—I am very sure that you will be pleased with a screen of this kind, and that you will find it useful for a variety of purposes. It is a convenient place in which to set out temporarily newly received nursery stock or tender plants that need protection for a short time. In such a house you will be able to raise many things that would be a failure outside in your dry climate. I like to build such a house high enough and wide enough so that I can work inside of it without removing the screens. I should by all means have the lath on the sides as well as on the top. I have used such screens where they were not over twelve inches above the plants, and have had good results from them. But in your section, where the succession of days of bright, windy weather continues for a long time, I think the larger or house form more satisfactory. Screen houses of this kind are in common use by many nurseries. I have seen several as much as thirty by fifty feet and seven feet in the clear.

I do not know that I can give you any special suggestions as to sowing and the care of seedlings under such protection. There is much to learn about the use of such protection and the care and sowing of seeds, but this information is of such a character that it must be largely worked out by practical experience.

I do not understand why it was that so few of your peonies flowered last year. If the plants lived I should think that in your dry climate they ought to have flowered well. I put out over nine hundred peonies in the spring of 1905, and last year I had over one thousand flowers. I used only the stronger-growing kinds, such as Victor Tri-color, L'Esperance and Festiva Maxima. I believe these plants are well adapted to your location, but of course I may be somewhat mistaken in this matter.

NEW VARIETY OF PEACH

D. A. McG., Andrews—If you have a variety of peach as good as that about which you write, I have no doubt that some of the leading nurserymen would be glad to take it up for propagation, and would suggest that you correspond with them in regard to it, unless you are prepared to do this yourself.

The originator of new fruits is not protected by the law as the originator of some mechanical device is protected, but he must convince some one of its merits and induce him to buy it for distribution, or else he must undertake to convince a large number of people of its merits and introduce it to cultivation himself. If one is not versed in advertising methods he will generally fare best if he can induce some good, honest nurseryman to take hold of it. I do not know what to recommend in your case, as success in this, as well as in other business matters, is largely a personal affair. I would suggest that at the season of ripening of your peach you forward some specimens to some of the better nurserymen, having them in good condition. Of course, you had better correspond with them in regard to it before doing so.

As chairman of the committee on new American fruits for the American Pomological Society you might forward a sample of the same to me if you wish, and I should be pleased to make a report on same.

As you have left your address incomplete, by reason of not putting on the state, I do not know where you are located, or I would recommend you to take up the matter with the member of the American Pomological Society having special charge in your district.

EFFECT OF THE SCION ON THE BEARING QUALITIES

J. R. B., Monroe, Ohio—There has been considerable written in regard to the probable advantages of paying close attention to the selection of the trees from which we cut scions. Prof. L. H. Bailey, who is a recognized authority on such matters, earnestly advocates the cutting of scions from bearing trees. I certainly prefer scions from thrifty, heavy-bearing trees; but such trees seldom produce good scions, and in my experience I have not seen any especially good results come from this practise.

It is my opinion that the bearing qualities of trees are not liable to be changed in this way, but are inherent in the scions, whether they are cut from productive or unproductive trees; that the quality of productiveness is generally influenced more by soil, light and other conditions than by any variation that can be transmitted by the scions.

WEAK VINEGAR

E. M. C., Springfield, Missouri—I take it that the vinegar you now have on hand, that was made last fall, and which you state is weak, has not yet had time enough to change its alcohol to vinegar. You can hasten this process very much by the use of beech shavings, through which the vinegar should be allowed to drip.

If you do not care to go to the trouble of arranging for this, you would find that simply changing the vinegar from one barrel to another, allowing it to run slowly and exposing it to the air as much as may be, will hasten its formation very much.

Gardening

BY T. GREINER

SWEET-POTATO PLANTS

A reader asks me whether a hotbed bedded with sweet potatoes will give more than one crop of plants. The sweet potato does not act materially different from our common or "Irish" potatoes in this respect. When seed potatoes are very scarce and high in price, as often in case of new introductions which may cost one dollar a pound, we sometimes do bed them as sweets are bedded. The sprouts come up, and when two to four inches high may be pulled and potted off or planted directly in the field or garden. Other sprouts will soon appear, and may be pulled and made use of when their time comes. Of course, such sprouts of common (white or Irish) potatoes, as also seed tubers, may be planted from early spring to early summer, or over a period of at least two months.

Sweet potatoes are usually planted at a time when settled weather has set in, here about June 10th. The first crop of plants often is ready earlier than we care to set them. But they are easily held back by being heeled in under a cold frame, of course protected by partial glass covering and shading when necessary. Thus they may be held until other sprouts appear and grow to pulling size, and all may then be planted together.

I do not think that it is wise to plow the ground for sweet potatoes deeply. Apply some fine manure in the furrows, then throw up ridges right over the furrows, and set the plants on top of the ridges. Cultivate until the vines cover the ground.

BEST MANURE FOR MELONS

A Connecticut reader wants to know which is the best manure for water and musk melons, horse, cow or hen manure; and what amount is necessary for an acre.

My plan is to use any manure I can get and all I can get. There is hardly ever any danger in using too much. Yet we can often raise very good crops of melons with very little manure. The value of horse and cattle manure depends very largely on how the animals were fed. Manure from grain-fed animals is much richer than that from animals fed on straw or dry hay. It depends to some extent on the manner in which the manure has been kept. If it has been under shelter, and occasionally turned to prevent its overheating, it is richer than if leached out or fire fanged.

We usually prefer horse manure to the colder cow manure, and of course apply hen manure in moderate doses only, as it is much richer, especially in nitrogen, than horse or cow manure. A piece of rich clover sod or one that was freshly broken the year before is often found very suitable for melons, and it may need comparatively moderate doses of manure. Ten to twenty two-horse loads may give a good yield. Some lands may do better with heavier manuring. A top dressing of hen manure, a load or two to the acre, well harrowed or cultivated into the soil, will seldom fail to give good results.

QUACK GRASS IN THE GARDEN

What to do with a garden that is overgrown with quack or witch grass is a problem handed me for solution by a reader in Chenango County, New York. The solution is not a particularly easy one. The garden contains about half an acre, mostly hillside, facing west. It has been used for a garden for several seasons, but the grass has given much trouble, and it is questionable whether it will pay to make great efforts in getting it out.

With constant and thorough tillage it is possible to eradicate this very persistent weed. You will have to plow, and harrow with spring-tooth or spike-tooth harrows, tearing out the roots and gathering them so they can be taken off the field. Keep at it in this way until the roots are pretty well out of the soil, then plant a hoed crop that will require frequent cultivation and hoeing. Don't let any grass grow. Tear it out wherever you find it. In early fall sow turnips or rape broadcast to make a thick mat over the entire ground to choke out what quack grass remains. A heavy growth of fodder corn from seed sown broadcast, rather thickly, may also kill out the pest.

If another (clean) garden spot is available, even if a little further away from the house, I would prefer to use that, and use the old garden spot for pasture, or put it in clover. Quack grass is not really a bad pasture grass. Or fence the patch in and keep a number of hogs in it to root the ground up and devour the roots.

GEM JUNIOR Safety Razor

The Gem Junior with the New Bar does the hand-work of the barber, tightens the skin and raises the hairs vertically, giving a perfect, close, delightful shave with no scraping. Just lather and shave—that's all.

New frame with Bar sent to present users of the Gem Junior Safety Razor on receipt of 25c. No exchanges.



$1.00 Complete with 7 selected blades, frame, shaving and stropping handle, in handsome case.

Separate set of 7 Gem Junior Blades 50c

Each Gem Junior blade is absolutely guaranteed to shave better than any other regardless of name or price. Each bears the name. *Beware of imitations.*

A storiette "The Gentle Art of Self Shaving" including a full course in shaving, sent Free.

GEM CUTLERY COMPANY
34 Reade Street New York

London, E. C.: 35 Aldermanbury
Paris: 24 Rue de Constantinople. Hamburg: Pickenhuben 4

We are the original Modern Safety Razor Makers.



POTASH

in the same soil, with the same seed, labor and farm expenses, gives from

Two to Three Times the Yield of

POTATOES

Facts are better than any amount of talk. If you want proof of the facts, let us send you our **Free Book, "Profitable Farming."** It gives the certified reports of a great number of experiments made by farmers. It is brimful of scientific, practical, money-making information. Write for it to-day. Address

GERMAN KALI WORKS
New York—93 Nassau Street
Chicago—Monadnock Building
Atlanta—1224 Candler Building

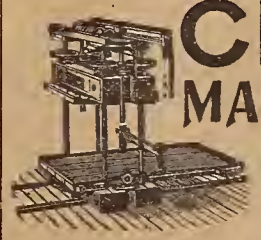
Nitrate of Soda

NITRATE SOLD IN ORIGINAL BAGS

The Nitrate Agencies Company

64 Stone Street, New York

Orders for All Quantities Promptly Filled—Write for Quotations



CIDER MACHINERY

We have had 35 years' experience in furnishing outfits for both Custom and Merchant Cider Mills.

Our Goods Are the Standard.

Send for catalogue.

BOOMER & BOSCHERT PRESS CO.,
99 West Water St., Syracuse, N. Y.

Cow Peas. Wood's Seeds.

We are headquarters for all Farm Seeds—**Cow Peas, Soja Beans, Millets, Sorghums, Ensilage Corn, Crimson Clover, etc.** prices quoted on request.

Write for prices and **Wood's Crop Special,** giving interesting information about Farm Seeds. Mailed free on request.

T. W. WOOD & SONS,
SEEDSMEN, - - RICHMOND, VA.



A Little Gold-Mine for Women

The U. S. Cook-Stove Fruit-Drier

Dries all kinds of Fruits, Berries, Cherries, Corn, Vegetables, etc. It takes no extra fire. Always ready for use, and will last a lifetime. It works while you cook. Write for circulars and special terms to agents. Price $5.

E. B. FAHRNEY, Box 125, Waynesboro, Pa

LAND DRAIN TILE
Wm. T. Leggett Co., Pittsburg, Pa.



LICE INFESTED HENS

One thing more than any other, wrecks the hopes of thousands of poultry raisers—*lice*. A louse-infested hen is a tax—a drain on resources—a bit of property that represents *loss*. There's nothing in them but trouble and worriment—don't keep one. It isn't necessary to be rid of hens because of lice however. Simply dust hens, roosts, nests and *hidden cracks* with

Instant Louse Killer

It destroys them completely. Instant Louse Killer was formulated by Dr. Hess (M.D., D.V.S.), and kills lice on horses, cattle, ticks on sheep, cucumber, squash, cabbage worms and melon pests, as well as rose slugs. It is also a reliable disinfectant and deodorizer. See that the word "Instant" appears on the can.

SOLD ON A WRITTEN GUARANTEE
In Shaker-top Cans

1-lb. can., 25c } Except in Canada and
3-lb. can., 60c } extreme West and South

If your dealer cannot supply you, we will forward one-pound can by mail or express for 35 cents prepaid.

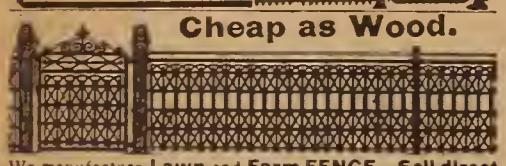
Manufactured by
DR. HESS & CLARK, Ashland, Ohio.

INSURE YOUR HEALTH AND COMFORT
on stormy days by wearing a
TOWER'S FISH BRAND
SLICKER
Clean - Light Durable
Guaranteed Waterproof
$3.00 Everywhere



605 A. J. TOWER CO. BOSTON, U. S. A.
TOWER CANADIAN CO. LIMITED TORONTO, CAN.

ANCHOR FENCE
CATALOG FREE
Write at once for our new, money-saving plan, tells how to buy the best farm and ornamental fence at the lowest possible price, saving all jobber's and dealer's profits. We are saving thousands of dollars to fence buyers every year. Special agents' proposition. Write—
Anchor Fence & Mfg. Co.
Sta. D, Cleveland, Ohio



Cheap as Wood.
We manufacture Lawn and Farm FENCE. Sell direct shipping to users only, at manufacturers' prices. No agents. Our catalog is Free. Write for it to-day.
UP-TO-DATE MFG. CO., 971 10th St., Terre Haute, Ind.



ORNAMENTAL FENCE
25 DESIGNS, ALL STEEL
Handsome—cheaper than wood—more durable. Special prices to churches and cemeteries. Don't buy a fence until you get our free catalogue.
Kokomo Fence Machine Co.
427 North St., Kokomo, Ind.

51 CHICKS FROM 50 EGGS
AT LEAST FOUR TIMES From Our $5.00 BUCKEYE. Backed by 17 years successful experience. BIG FREE BOOK explains how to start, gives prices and describes all necessary supplies. 40 Days Free Trial. With 50 Chick Brooder, Freight paid East of Rockies $9.00.



BUCKEYE INCUBATOR CO., Box 28, Springfield, O.

DON'T RUST FARM FENCE
Sold direct to farmers at manufacturers' prices. Catalogue free. Freight prepaid.
THE WARD FENCE CO.
Box 867 Decatur, Ind.

GAPES AMONG CHICKENS!
Write for my free booklet today. It tells you all about the origin of this pest and our Rex Gape Worm Extractor. This is the greatest cure ever known and we fully guarantee it. J. S. KLOCK, Dept. E, Urban, Pa.

PATENTS SECURED OR FEE RETURNED.
Free report as to patentability. Illustrated Guide Book, and List of Inventions Wanted, sent free.
EVANS WILKENS & CO., WASHINGTON, D. C.

PATENTS that PROTECT
Our 3 books for inventors mailed on receipt of 6 cts. stamps
R. S. & A. B. LACEY, Rooms 28-38 Pacific Bldg.
Established 1869. Washington, D. C.

Poultry Raising

GRAIN AMONG THE CHAFF

Fat hens and lots of eggs are not apt to go together.

Cooked beans are rich feed for hens. Have some for use by and by.

Hold on with the oil meal now, unless you want to force your hens to molt early.

All grain is not a perfect ration, so feed shells and other mineral-bearing matter.

Boiled potatoes mixed with milk are splendid for growing chicks. Good for laying hens, too.

Drop off the meat rations in grasshopper time. Save that for cold weather, when the hens are shut in.

I would not give a cent a bushel for condition powders. Give your hens good feed and they will not need the dope.

A singing hen is always a busy hen. And have you ever noticed that it is the busy hens that bring you in the eggs?

When you go into the hen business go in to make something out of it. Too many men already playing with poultry.

There are hogs among hens. Any among yours? Get them out where they cannot rob those that are slower eaters.

"Dry" hens and those that lay ought not to be fed alike. Separate them and feed according to the business that is being done.

Hens will get all the clover they want themselves this time of the year, but cut some and store it away against the time when the snow flies and they cannot find any.

Sometimes the old ring-streaked and speckled hen will lay the best of any in the yard; but don't conclude that that always ought to be true. Breed does tell in hens as well as in everything else. V.

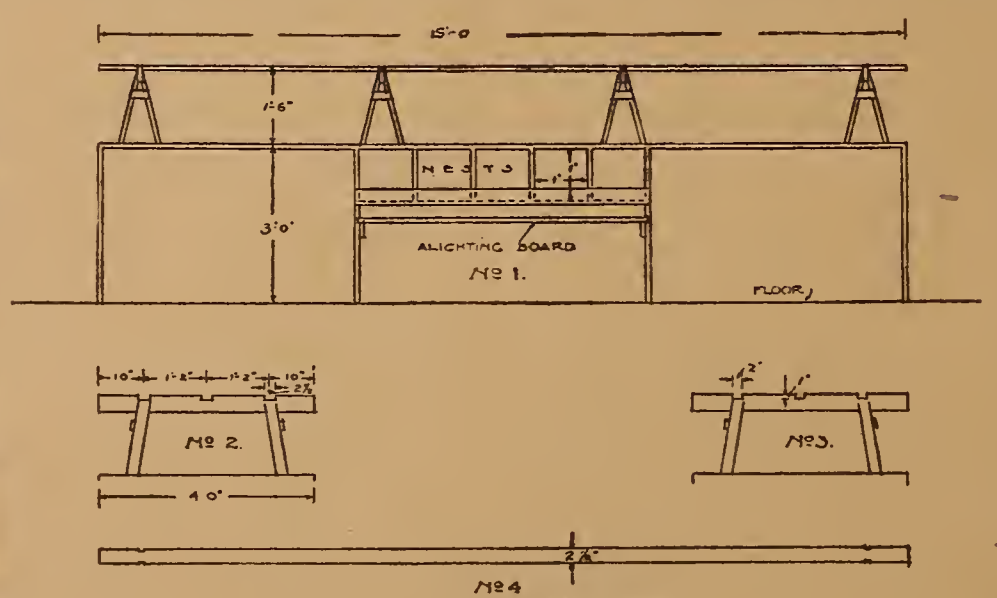
A START IN HENS

When we came on the farm there was a poor, little, old hen house on the place. It was cold and unclean and in every way an undesirable building for the purpose for which it had been made.

The first thing we did was to build a nice, roomy house, with plenty of windows in it, and as warm as we knew how to make it. Then we bought a few of the best hens we could find. It happened that these were mostly White Leghorns. I do not know that the fact that these were our first hens has had anything to do with it, but it is true that we have always had a warm feeling for the White Leghorns. They lay first rate, they do not want to sit all the time and they give us big white eggs.

That first spring we set a number of hens and hatched a nice lot of chicks. These we kept to take the place, so far as possible, of the old stock. The good wife kept a careful account every day of the number of eggs brought in and sold. She also fed the hens three times a day. Not a single year has passed when there was not a substantial profit from those hens. We have had some ups and downs, of course; who has not? But we love the hens better every year. We have done our best to get better stock, and we have succeeded reasonably well.

We have fed a warm mash in the morning of mixed meal, middlings and bone meal. In the middle of the day we have used some whole grain, either oats or buckwheat, and at night whole corn. Shells and vegetables have also been used. To-day we have about one hundred good young hens. E. L. V.



POULTRY-HOUSE ARRANGEMENT

THE FEEDING OF HENS

In order to obtain eggs it is necessary to have healthy, vigorous stock, properly fed. To do their best hens should be fed grain food, animal food and green food. They should be fed enough to keep them in good condition, but not overfat, and they should be induced to take plenty of exercise.

No set rule can be laid down for feeding, as conditions vary, and there are different methods of feeding different breeds.

A very good system to follow is to feed mash once a day and grain scattered in the litter twice a day; the mash may be fed dry or slightly moistened. When fed dry, it is best to put it in troughs, or hoppers hung against the wall, and the fowls allowed access to it at all times.

R. B. Rushing.

ARRANGEMENT OF A POULTRY HOUSE

I saw in the Farm and Fireside of March 10th, under the head of "Additional Floor Space," an article by A. G. Martin, which is part of a plan I have used for some time.

I build my floor for droppings like his, four feet wide and three feet from the floor of the house, but build it solid and in the darkest part of the house, and build my nests under the front of the dropping floor (see drawing No. 1).

A dropping floor four feet wide will take three roosts—one ten inches from the back wall, and all fourteen inches from center to center, which will leave ten inches from the front roost to the front of the floor. Allowing eight inches of roost to the fowl will tell the length a four-foot floor should be to accommodate the fowls in any house. On this floor I set trestles eighteen inches high, to support the roosts, which are one by two and one half inches, gained into the trestles the one-inch way, with the legs of the trestles under the outside roosts, to protect them from the droppings. I gain the roosts at the end to keep them in place (see drawings No. 3 and 4), and drop them into the center trestles the full width (see drawing No. 2). The roosts and trestles can then be removed and the droppings scraped into a wheelbarrow, the floor dusted with air-slaked lime (never use wood ashes about fowls), and the roosts and trestles returned, so cleaning the house without much trouble. J. W. Nichols.

THE FEATHER EATER

The best way to cure the feather eater of that vice is to kill her. Then you will be sure that she will not get the others started at that habit. To some this might seem like rather short advice, but in my opinion it is the only sure cure. I would rather lose one hen than to have her spoil the whole flock. Gregor H. Glitzke.

CAUSE OF BOWEL TROUBLE

After ten years' observation I find that the real cause of bowel trouble is not sloppy feed, or this or that, as every poultry paper and writer thinks; but the initial cause is a chill at some time.

I find that if you keep a chick warm from the hour it is hatched until it goes to market you can feed what you please and won't have any bowel trouble.

Clifford E. Davis.

PREPARE TO GET WINTER EGGS

This may not seem an opportune time to discuss this subject, but success in this means planning and preparation, as well as warmth and good care in winter.

There is no reason why any one cannot get winter eggs if he has reasonably warm quarters for the hens. Perhaps all people do not think alike as to what constitutes a warm hen house. One woman who could not get her hens laying, even in the late winter, was quite sure their quarters were very warm, as it was an old house, and the hens had a plastered room in which to live. On looking it over, however, it was discovered that the hens or something else had torn much of the plaster off in places, leaving the poor biddies in a cold, windy place, as a portion of the outer wall was torn away.

This may not always be the reason, as many times the owners of good, warm houses neglect to look after their flock when the first cold fall days come. The hens will huddle together in some protected place until their bodies are chilled through, and egg production is thus checked for weeks.

They are affected by those keen fall winds more because not used to it, and need to be kept indoors then, or at least let out for only a short time at night.

Spraying for red mites should never be neglected. Once in two weeks through the summer, or oftener, if possible, use the preparations and the spray pump the farmer uses on his cattle. They do excellent work, are inexpensive, and are sure death to the mites.

Many people think early pullets alone will lay in winter; but a yearling or even a two-year-old will lay as well, provided they can be kept busy scratching, so that they will not take on fat. One way of keeping them busy is feeding their oats or buckwheat on the straw. This can be given as the morning feed, and will furnish the needed warmth at that early hour better than hot mashes. There is much waste in all soft food, besides the extra work.

Both sweet and sour milk are a help to egg production, and with corn, buckwheat and oats should give excellent results, provided the hens can have a warm roosting place free from drafts and dampness.

They will keep free from bad habits, such as feather pulling and egg eating, if the feed is scattered in a good litter of leaves or straw. This is much more important than people think, as the exercise keeps the hens healthy.

Simple nests made of nail kegs half full of straw are the best. Being cheap, they can be burned if one cannot clean them otherwise. They cost nothing, usually, at country stores. It is impossible for Biddy to either scratch in them or make much headway eating eggs, should one get broken in the nest.

Watch for the first indication of lack of appetite, and feed a little less of corn, as that is a feed the hens are more greedy with, and is the one most likely to cause trouble by the hens getting overfat. Some coarse feed is a necessity, and is a matter often neglected. Apples, turnips, cabbage, and chaff from the barn floor—if you have one—all make feed relished by fowls. Cut off a slice from the side of the turnip, or they may refuse it; if cut, they will eat all out but just the shell. Another fine feed for them is lawn clippings, dried and stored in sacks hung up so as not to get musty. The hens eat it very greedily. Any fine grass could be used the same way, especially the second-crop grass.

April pullets, if kept thrifty and well fed, should lay in November, unless of the heavy breeds, which mature very slowly. Plymouth Rocks will lay at seven months if not allowed to get stunted.

Full-blood fowls are by no means always the best winter layers. A strain of White Leghorns in a flock of carefully bred "Barred Rocks" produced a lot of hens that were regular egg machines, and much less likely to take on fat than the old stock. But never cross more than two breeds, and that with an object. The "Rocks" keep true to color, so the flock is not spoiled in looks.

In building a new hen house the slant roof is by far the best, and if possible, divide the house into three sections if only one house is to be used. The middle part will make the best roosting room in winter, and there is constant need of divided rooms in a well-cared-for hen house. Without milk or buckwheat, meat is needed, and can be bought in many forms. A small amount goes a long way. The fowls using a feed only once a week will do well. Use iron drinking vessels if possible, as the hens cannot tip them over. Water should be always before them.

Mrs. Chas. Maranville.

DOUBLE HATCHES

I generally set two hens at a time, then give the two hatches to one hen, and either break the other up or reset her, feeding well on corn, to keep her broody, and dusting well. C. E. D.

Live Stock and Dairy

Folding on Forage Crops

Its Value to the Sheep and the Land

NOWHERE does the golden hoof tell more in good husbandry than in consuming forage crops. In a dry spell the green crops come in doubly welcome; indeed, are essential on most farms. Whether thus provisioning the flocks is studied enough by the average farmer deserves consideration, both for the ovines' and the land's sake.

It is generally the case that there is a between season, as it were, after the root cellars are emptied, and while the "seeds" and grass fields are assuming their summer plenteousness. To make the spring pinch for food all the more acute, the crop of lambs appears on the scene, which multiplies the mouths to double; hence it is that anything by way of green meat, if only to save old pastural herbage being nipped in the bud, so to say, proves, indeed, a boon of magnitude.

ADVANTAGES OF FORAGE CROPS

Firstly, they give, as intimated, early feed that can be provided in no other way. There are no roots available, save, perhaps, mangels, which very likely are needed for other purposes than sheep feeding. "Seeds" certainly are, or ought to be, coming on, but as with grass fields, precipitate stocking may spoil the bite for the summer; at least that is so as regards other seeds than one-year leys, that may be considered as forage in most senses of the term. Just as clovers come with the elm, and grass comes with the ash, so the forage I allude to gives both fields a start by carrying on the flocks for a while.

Secondly, forage crops give the land a rich manuring at the least possible cost—no cost at all, in fact, reckoning the worth of keep. The ground is only occupied for a winter and spring season with the crops. From north to south, east to west, the land to-day is crying out for fertilization. The yards of rich manure are not made now in many parts as they used to be, and artificials are a bit overmuch relied on. So just as it has been ever since the time of the ancient Romans, who were such famous farmers, the golden hoof steps in most opportunely in consuming the crops, and at the same time enriching the soil.

Feed off a crop of vetches, using grain and cake generously, and the field needs naught else in the way of fertilization for several years. Then droppings from sheep constitute a new dressing to the land, which can hardly ever be provided save by folding on roots or the consumption of forage. Some farmers have yet to learn how the soil is benefited by the change of dressing, particularly if that change be the most valuable patent of all fertilizers—excreta from our flocks.

The greatest advantage as regards this change of fertilization given in folding on forage fields is found on clay-land farms where no roots, nor any other crop, for that matter, may be consumed on the ground in winter, because of the wet, sticky and adhesive nature of the soil. These latter conditions hinder not grazing off forage crops in spring or summer, so that the change of fertilization may just as well be given there as on lighter earth—better, in fact, because the latter may be dressed by consuming crops at any season.

Thirdly, experience has shown that the golden hoof destroys, or at least stops to a considerable extent, the breeding of many insect pests in the soil, such, for instance, as wireworms, tipula grubs and slugs. No foot tramples heavier on the space that it covers than the sheep's.

Then there are the droppings and the urine which help so much in the work of destruction. The heavier the crop of forage, the more economically it can be used, and the more trough food spent therewith, the longer the sheep are kept on the ground, hence the worst time of it these pests get, while the richer manuring the field receives. It is not saying too much to assert that a heavy green crop consumed to the best advantage by sheep gives as good a cleansing to the earth from insect pests as half a summer's fallowing.

Fourthly, a second crop may be taken in the season; and that is precisely what we need in these hard times to enable us to pay our way and to admit of our laying a little by for the proverbial rainy day. The second crop may be either swedes, hybrid turnips, white turnips, kohlrabi or cabbage. Or if the field is foul, a fallow may be made, and so leave the ground in prime order for the wheat. This latter line may more often prove advantageous on strong land of the clayey order than on kinder-working soil, where the fallowing is more often done as we go on in our plantings. Either of the foregoing crops under favorable conditions give a wealth in themselves, saying nothing of what has gone to further fertilize, if consumption on the field is the plan of procedure.

CAREFUL FEEDING

A good shepherd counts for much here, as everywhere else where sheep are farmed. The tendency of all forage crops, especially rye and vetches as a mixed crop, is to grow cold and hard in the stem all too rapidly. If, however, the field has been planted in successional breadths, as it ought to have been, the shepherd may so follow on with his cuttings as to take the feed in succulent state throughout; and that is essential, because old and hard-stemmed, non-succulent feed is rejected, being uninviting in the extreme.

Feed lightly and feed often is my motto. Leavings there are bound to be, as anybody who has fed sheep himself knows full well, but the leavings are reduced to a minimum if the little-and-often method is carried out and the crop is taken at the right stage of growth.

There are those who fold on the crop direct, and let the flocks help themselves to the standing plants. That is wasteful in the extreme with growths like vetches, for more forage is trampled under foot, if it be a heavy crop, than is eaten.

TROUGH FEEDING

Judicious feeding in the folds is no doubt in a great measure the secret of success in this kind of farming, as it is really an art. Purchased foods are costly, while home-grown grain is produced at some considerable outlay. Still, where ewes have lambs to support, the cake and grain reaches far. It helps the ewes, the lambs, the wool and the land. To consume the crop unaccompanied by trough food is to take that which has been produced by the identical land only, and there is benefit in that, no doubt, by way of fertilizing returns as well as carrying along the stock, but when the troughs are brought into use there is far greater benefit given all around.

Blended trough foods are the best for sheep, and that is the primary object; but in blending, such feeds as give satisfactory manurial returns are all the better for the land. By way of cakes, cotton cake is the least costly, and it tells quite satisfactorily on the sheep and in the fertilizing way. While being of an astringent nature, it works well with the sappy green food. But linseed cake suits lambs better. As to grain, peas or beans and oats in equal proportions are to be advised. There is no objection to barley or wheat if not too dear. In fact, wheat is the most nutritious of all grains, but like barley, requires some considerable judgment in dealing out. Then there is corn, nutritious to a degree, and often cheap enough, but I, for one, am not in favor of it.

White straw, grain pulse and cotton cake served in equal parts should fulfil all requirements in an ordinary way if there be no lambs, and the aggregate may be apportioned according to what the flock consists of, whether dry sheep or ewes with lambs, and whether they be for butcher or stores; and whether the fallowing on food supply be of a tolerably rich nature, or of a poorer, to take a flock from better to worse provisions is like purchasing stock from a richer for a poorer farm, which is rarely a wise proceeding. I prefer the grain crushed rather than ground into too fine a meal.

Thus I say if there be good general management, the crops succulent and weather tolerably favorable, the golden hoof may be conducted along a longer or shorter time on the forage to profit and advantage, and all the more so if we increase our flocks, which we may well do, for they are now, as ever, the great paying factors on many farms. W. R. GILBERT.

◈

Keeping a cow for her good looks may be fine esthetics, but it is not good business. Business demands that a cow give at least 6,000 pounds of milk a year; make $60 worth of butter; that she furnish one calf worth $5 or more; $10 worth of sweet skim milk, and manure enough to pay for her feed. In this way a farmer can eat his cake and have it at the same time.—Farm Journal.

THE BEST CREAM SEPARATOR

AND THE DIFFERENCE IN CREAM SEPARATOR ADVERTISING

All separator advertisements seem very much alike to the average reader, who is at a loss what to make of them and how best to attempt guessing which may be the best machine, where all claim to be the best and all appear to be about everything that could be asked for.

THE EXPLANATION AND THE SOLUTION ARE TO BE FOUND IN THE DIFFERENCE BETWEEN DE LAVAL AND OTHER CREAM SEPARATOR ADVERTISING.

The De Laval Company has always stuck to the old-fashioned plan of having its advertising written in its own offices, by the men who make and sell its machines and have been doing so for years, and who know no more about advertising than to describe as simply and best they can the merit and efficiency of the machines they offer to the public.

Practically every other separator concern of any consequence has its advertising composed and sometimes "invented" by professional agencies and hired advertising writers, located in the big cities, most of whom could not themselves tell the difference in looks between a cream separator and a corn sheller, and who take up the advertising of everything that comes to them, from needles to automobiles, for anybody able to pay for their services, just as does the lawyer for any client who comes along, whether the case is good or bad and the client right or wrong.

It is up to these professional composers of prose, poetry, fiction and romance in an advertising way, and the professional artists who work with them in illustrating their productions and putting them into showy and attractive shape, with their wide knowledge of what "takes" with the public generally, to claim the utmost their prolific brains can evolve for the separators they are retained to advertise.

What these professionalists all do know, or are at any rate first told, of cream separators is that the DE LAVAL machines and the advertising descriptive of the DE LAVAL machines are the ESTABLISHED STANDARDS by which their advertising productions must be measured, and MUST ENLARGE upon in some way, or else they will stand little show of drawing any business for their patrons.

As a result, the biggest advertising claims are frequently made for the poorest and trashiest separators. The biggest advertising done and the biggest claims made are by jobbing and "mail order" concerns who don't even make their own separators at all, but simply buy them where they can buy them cheapest, and who are almost invariably selling a machine which has already proved a business failure once or twice before under a different name and a different coat of paint.

When the DE LAVAL claim was justly made of saving $10.– per cow every year for its users one of the poorest and cheapest separators ever produced put out a claim of saving $15.– in the same way, and since then another has come along and made it $20.– The next may as likely make it $25.–

BUT IT IS THE MACHINE AND NOT THE ADVERTISING THAT SKIMS MILK POORLY OR PERFECTLY AND LASTS TWO YEARS OR TWENTY YEARS AFTER THE BUYER HAS PUT HIS MONEY INTO IT, AND THAT IS THE DIFFERENCE BETWEEN THE DE LAVAL AND OTHER CREAM SEPARATORS, SMALL AS THE DIFFERENCE MAY SEEM IN THE ADVERTISING CLAIMS MADE.

The 1908 DE LAVAL catalogue—to be had for the asking—is an educational text book of separator facts, of interest to all who read and think for themselves.

THE DE LAVAL SEPARATOR CO.

42 E. Madison Street
CHICAGO
1213 & 1215 Filbert Street
PHILADELPHIA
Drumm and Sacramento Sts.
SAN FRANCISCO

General Offices:
165-167 BROADWAY,
NEW YORK.

173-177 William Street
MONTREAL
14 and 16 Princess Street
WINNIPEG
107 First Street
PORTLAND, OREG.

Make Plowing Easy

The Wonder Plow Trucks



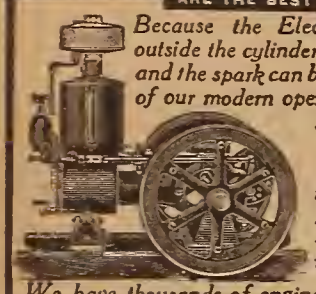
Make Hard Work Easy

Attach to any walking plow—one or two-horse, right or left hand, wood or steel beam. They regulate depth and width of furrow, and lighten the draft on horses at least one-third. The furrow wheel acts like a pivot, just like wheel of wheelbarrow. You do not touch your hands to the plow, except in turning at end of furrow. Your twelve-year-old boy can plow with the Trucks as well as a man. You don't need to take our word for this—test them yourself at our risk. Greatest money-maker for agents ever put on the market. They sell on sight. Big profits and good territory still open. We give a sample set of Trucks free to all new agents.

Retail price only $5.00. Write at once for full particulars.

WONDER PLOW COMPANY,
311 Factory St., St. Clair, Mich.

Stickney Gasoline Engines
ARE THE BEST



Because the Electric Igniter is outside the cylinder where it is cool and the spark can be seen, because of our modern open tank cooling system and because of 57 reasons told in—Stickney's Free Catechism

1½ to 16 H. P. Stationary and Portable

We have thousands of engines in successful operation because of our years of experience in making engines of the best material and most accurate workmanship. Send for Catalog.

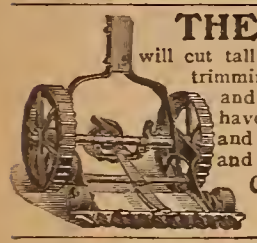
Charles A. Stickney Company
Main Office and Factory, St. Paul, Minn.
Branch, 55 Batterymarch St., Boston, Mass.
AGENTS EVERYWHERE SELL STICKNEY ENGINES

NORTH
FOR FARM LINES



TELEPHONES specially adapted to farm lines. Sold direct from factory. Book of instructions how to organize farmers and build line free. Write for Bulletin No. 304. The North Electric Co., Cleveland, O. Kansas City, Mo. Dallas, Tex.

THE CLIPPER



will cut tall and short grass, do all trimming along walks, drives and fences. If your dealers haven't them, drop us a line and we will send circulars and prices.

Clipper Lawn Mower Co.,
5th St., Dixon, Ill.

SAVE YOUR BACK

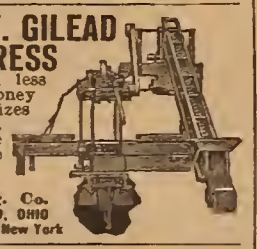
Save time, horses, work and money by using an

Electric Handy Wagon



Low wheels, broad tires. No living man can build a better. Book on "Wheel Sense" free.
Electric Wheel Co. Box 96, Quincy, Ill.

THE ORIGINAL MT. GILEAD HYDRAULIC PRESS



produces more cider from less apples, and is a bigger money maker than any other press. Sizes from 25 to 400 barrels daily. Steam Evaporators, Apple Butter Cookers, Gasoline Engines, etc. Catalog free.

MADE ONLY BY
The Hydraulic Press Mfg. Co.
DEPT. 6 MT. GILEAD, OHIO
or Room 1240 39 Cortlandt St., New York

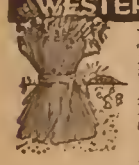


Take Off Your Hat to the MYERS PUMPS

The only Glass Valve Pump—never sticks—never fails—always ready. Also HAY TOOLS, Barn Door Hangers, Hay Rack Clamps. Write today for Circulars and Prices.
P. E. Myers & Bro., 28 Orange St., Ashland, O.

THE PUMP THAT

WESTERN CANADA LANDS!



We own 155,000 acres LAST MOUNTAIN VALLEY, Saskatchewan, prairie wheat lands. We want BUYERS. Will contract with energetic AGENTS. Liberal commission. Send 10c for handsome illustrated booklet and maps.

WM. PEARSON CO., Ltd.,
330 Northern Bank Bldg. Winnipeg, Can.

ORNAMENTAL WIRE AND STEEL FENCE



Cheaper than wood, combining strength and art. For lawns, churches, cemeteries. Send for FREE CATALOG. Address
The Ward Fence Co.
Box 725 Decatur, Ind



LAWN FENCE

Many designs. Cheap as wood. 32 page Catalogue free. Special Prices to Churches and Cemeteries.
Coiled Spring Fence Co.
Box 414 Winchester Ind.

AN OPPORTUNITY

FARM AND FIRESIDE has just issued a handsome catalogue of over 300 illustrations of articles that can be obtained by getting just a few of your friends or neighbors to take FARM AND FIRESIDE. We will send you one free if you will drop a postal asking for it.

MERCHANDISE PAYMENT DEPARTMENT
FARM AND FIRESIDE, Springfield, Ohio

Live Stock and Dairy

Developing a Good Dairy Cow

As one travels through the dairy sections of the country during the winter, and sees the scrawny, unthrifty, humped-up young heifers, that are lacking in vitality, in capacity, and in fact in everything that goes to build up a profitable cow, he no longer wonders why so many men are making a failure of the dairy business.

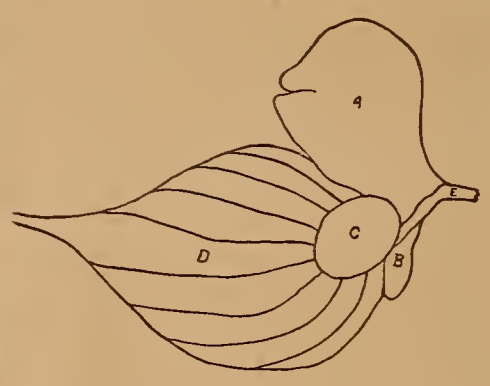
The common practise of weaning the calves at three days of age and putting them on a diet of skim milk or whey for a few weeks, and then turning them out in some sun-burnt pasture to survive or perish, is one of the chief causes of the many inferior, weak-constitutioned, unprofitable cows that are in the dairies of the country at the present time.

These men who talk so reverently of Nature, and fear so much to improve upon her, seem to forget that in the natural state the calf ran with its dam until she was dry, and that our dairy cows of the present day are in a highly developed, artificial condition, and therefore require artificial methods of feeding, in order that they may develop their good qualities, that have been intensified by good breeding and changed environment.

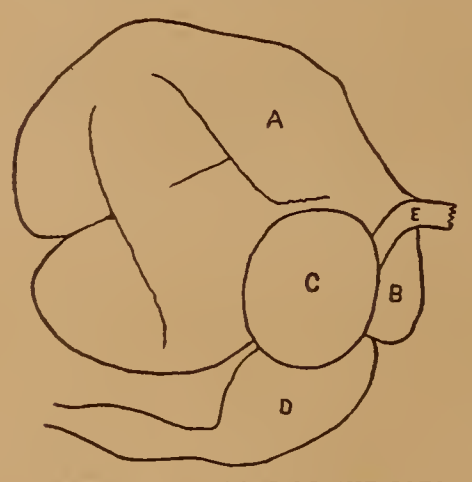
The purpose of this article is to explain the most practical and successful methods of developing the young calves into vigorous, high-producing dairy cows, and to show the reader in a clear and concise manner the necessity of feeding the young animals in a manner that will best develop their digestive organs. Upon this development depends the heifer's success or failure as a profitable appendage to the dairy.

FOODS AFFECT DEVELOPMENT

To arrive at an understanding as to the organs of digestion, let us make a study of the four stomachs of the calf, and trace their growth and development from the time the calf is born until it has reached full maturity, and also study what effect different kinds of food have upon the proper development of these organs.



THE FOUR STOMACHS OF THE CALF



THE FOUR STOMACHS OF THE COW

In the young calf we find that the fourth stomach is fully developed and larger than the other three, which are imperfectly developed. This arises from the fact that the nutriment on which the calf subsists (its mother's milk) is so easily digested that it requires but little exertion for the organs of digestion. The other three stomachs are practically useless until the calf begins to feed upon grass, forage or dry food, when the whole digestive apparatus gradually becomes developed.

When a calf begins to eat solid food it begins to ruminate; and as the quantity of dry food is increased, so does the size of the first stomach increase until it attains its full growth. When the first stomach has become fully developed it is larger than the other three stomachs combined.

The illustrations show the relative proportions of the four stomachs of a calf and the relative proportions of the four stomachs of a full-grown cow. The curious modification of these organs to adjust themselves to the altered conditions of the animal can be easily understood by referring to these drawings.

The letter A denotes the first stomach, or paunch; B, the second stomach, or honeycomb bag; C, the third stomach, or manyplies; D, the fourth stomach, or reed; E, the portion of the esophagus, as connected with the first stomach.

A study of the above facts teaches us that we must feed the calf at first with the milk from its own dam, which at the time of its birth is of a peculiar character, and acts as a gentle purge, indispensable to its health at this critical period, but which would prove injurious at a later stage of its growth. In order that we preserve the thriftiness and health of the young calf it is best to feed it an abundance of new milk, warm and fresh from the cow, for the first two or three weeks, after which it may be gradually trained to eat more substantial food, supplemented with its milk. As soon as the calf will nibble bits of clover or alfalfa hay or eat a little grain food, skim milk may be substituted for whole milk, and the fats that have been removed by skimming supplemented by the use of grain or mill feed. Oat meal and linseed meal are excellent supplementary feeds for the growing calf.

If the calf is fed entirely upon milk until it is weaned, it is plain to see that the fourth stomach will be undeveloped and unable to receive and perfectly digest the swallowed grass or hay without its having previously undergone the process of rumination in the first stomach, and that the other three stomachs will be quite unprepared to perform their proper functions until the fourth has become sufficiently developed to perform its part.

CHANGE FROM MILK TO GRASS GRADUALLY

This shows us plainly that when we change a calf suddenly from milk to a diet consisting solely of grass or hay, a suspension of healthy functions must necessarily take place, which will more or less affect its development and growth. No doubt you have seen farmers turn their calves out to pasture and wonder why they did not make good growth. A young animal might be placed in feed up to its back, and yet starve, for the reason that its stomachs had not reached the proper development to enable them to digest that kind of food.

While on this subject it may be stated that there is a great diversity in the milking qualities of cows brought about by breeding, care and environment, yet the manner in which they are reared has a wonderful effect upon their milk-giving properties.

A heifer that is raised on scanty pastures and kept in a poor, half-starved condition will never develop into as good a milker as one grown in the right manner and fed a nitrogenous ration, no matter how well bred or how carefully fed after she is put to use in the dairy.

When development is arrested, in whole or in part, the capacity for future development is weakened in proportion to the degree to which development was stopped. It is this arrested development that ruins more than two thirds of our dairy heifers, and it is the development that is arrested nearest to birth that most seriously injures the individual. The poor, scrawny whey and skim-milk-fed calves furnish an illustration of arrested development that is a curse to the dairy industry.

There is little danger of overfeeding the growing heifers if they are fed the right kind of foods and in the right proportions. In feeding heifers, the same as in other branches of live-stock feeding, early maturity is an essential element of success. A young animal takes the least amount of food to produce the same growth, and all other things being equal, each succeeding pound of growth up to maturity costs more than the preceding pound.

It is also an established fact among the best feeders that a well fed and cared for heifer will arrive at the same stage of maturity at two years of age as is usual at three or three and a half years under the common system of growing them on a large majority of dairy farms.

In milk we have all that is necessary for the growth of a young animal, it is the type and representative of all food, and unless a ration contains the principles of milk it is not fitted for the promotion of health and perfect development of the body, and besides, the stomach of the calf is not adapted for extracting the nitrogenous elements from other foods.

In the young calf the first three stomachs are not used at all. The milk passes at once into the fourth stomach, hence we see the necessity of weaning these young animals gradually, in order that their stomachs may develop and be able to prepare the raw food for digestion. Consequently, when we change the calves from a whole-milk diet we should give some form of food to replace the elements removed by skimming.

OTHER ESSENTIALS OF HEALTHY DEVELOPMENT

In growing and developing young animals it has been found by experience that all exposure to cold or dampness should be avoided, as cold diminishes the vitality of the system, and serious injury is often the result. Exercise is also essential to the healthy development of young heifers, and they should have large, well-lighted, ventilated and well-sunshined pens. Sunshine is not only a great germ killer, but it is a great invigorator and stimulator to all young animals. The sanitary condition of the pen or stable is also an important item. They should have dry, clean nests, and be provided with clean, wholesome feed, and all utensils used in feeding should be kept sweet and clean.

From the time the heifers are taken off the milk diet until they are old enough to breed they should be well fed and cared for. I believe that ground oats should form a large part of the grain ration that is fed to them. There is no grain superior to oats for developing the organs of maternity in breeding animals, and if more of the heifers were fed ground oats as a part ration there would be fewer cases of shy or non breeders.

Heifers should not be required to take on themselves the burdens of maternity until they have acquired fair maturity and development, and I believe the man who breeds his heifers to drop their first calves at from twenty-four to thirty months is on safer ground in building up his herd than the man who will not wait for this maturity. W. Milton Kelly.

SHEEP MANAGEMENT

When sheep are left to their natural inclinations they bring forth their young in February and March, as a rule, but some scatter along from December to June. The period of gestation is about one hundred and fifty-five days. When lambs are born in winter they should have a dry, warm brood pen, but after two or three days they should be put in an airy pen connected with a sunny yard, and other expecting ewes put in the brood pen.

I find that it is a good plan to trim a little of the wool from near the udder, so the little one can find the teat, for it has more vitality the first ten minutes of its life than ever after until it has filled its stomach with warm milk. It is not always best to try to help the little one by holding it up, as most of them seem to object to it.

If lambs have become chilled before nursing, fill a gallon jug with hot water, wrap a sack around it, and put it in a corn basket, then put the lamb in the basket, and throw a horse blanket over all. They will soon revive and commence running around the jug, and are soon strong enough to be put beside their mother.

Feeding sheep for breeding purposes should be done carefully. If they have grass and roughage, do not feed any grain at all until lambs are dropped; then give each ewe about two pounds of carrots and a little shelled oats twice each day for the first week, and after that all she wants to eat of shelled corn, oats, carrots, buttermilk, potato and apple parings, straw, beets and corn stalks, with plenty of water. There is no use of grinding any kind of grain for sheep. If lambs are not born until grass time, and grass is good, no grain need ever be fed.

Very often some one will tell you strange things—something they know nothing about. Some men will say you can turn sheep into a corn field and they will eat up only the weeds and clean up the vines, etc., but will not eat the corn. If any one tells you that, don't tell him he lies, but ask him what boys would do if they were sent into a patch of ripe melons to trim out a few big weeds. Sheep will certainly devour plantains and morning glories with a relish, and in fact nearly all weeds excepting thistle and cockle burs. I always mow the weeds and grass in the roads on and around the farm and along fence lines, rake them up and stack in a suitable place, and throw them out in the winter on the snow or bare ground. They seem to like them and devour them greedily.

A ewe is generally good for breeding as long as her teeth are good, and that

is from six to eight years. Even at that age she will sell well to the butcher, though often objectionably fat. Cull well every season after lambs have been sold or weaned, for even in a small flock there are usually some that are not desirable. Some bring poor and misshaped lambs, others after a few years have such large teats that lambs can hardly nurse, and some lose their udder from fever or other causes. These should be noted and taken to the shambles as soon as they are in good flesh.

In this way you can keep a flock looking well, of uniform size, and desirable form, making it a pleasure to look at as well as increasing the profits.

Sheep do not tear down and root up pens and make mud holes as hogs do. If a gate is left open or a bar down, and they get out, a shrill whistle will generally bring them back. They will not run away if they get out on the road, and will rarely leave the fold at night, but at the earliest break of day they will go to the pasture, and return to the shed in the heated part of the day, going out again toward evening and remaining as long as it is light.

For this reason there should be an unobstructed lane or runway from the pasture to the shed, for when sheep get started they run headlong and recklessly toward their shelter; therefore, if they were shut off they would become frantic and plunge into fences, even to the peril of their lives, but if there is a clear passage, and they know it, they will never leave it. It is not necessary to have expensive buildings for sheep to shelter in; low sheds are good, rising to the south or east and boarded up about three or four feet in the front, leaving the remaining space open. No weather is too cold for them in such a shed, but the roof should not leak rain or snow.

There is no use of a floor winter or summer. Late in the fall I put chaff or straw a foot deep in the shed, and no more bedding is necessary during the winter. With the winter's accumulations there will be some fine fertilizing material, none of it having been wasted, while a good bed is furnished all winter without having the trouble of cleaning and re-bedding.

Do not shear very early, as a few hot days in May will not make them suffer as much with their wool as a few cold days and storms if shorn. About the first of June is a good time, as warm weather can then be expected, and the wool has raised from the skin, making it easy to shear.

Some sheep will stand up on a barn floor and scarcely move; others have to be tied like a calf, and still others struggle so they have to be tied and laid down on a bench. One should be careful about clipping the hide, as that will make them struggle more.

At the time of shearing examine each hoof. Most of them will have the hoof grown under. This should be pared off with a sharp knife, as dirt will get under and make the foot sore. On stony land this will not occur. Also have some good pine tar at hand, and with a soft swab put some up each nostril.

In conclusion I want to impress upon the mind of the reader a simple remedy for exterminating ticks. It is as follows: Let the sheep be well fed at all times. It is much cheaper to keep them fat than poor. By keeping sheep fat, ticks cannot exist, as a fat sheep constantly throws off so much oil on the wool close to the hide that ticks cannot exist. On a poor sheep, with dry, lifeless, light wool, they will become so numerous as to almost consume her.

R. B. RUSHING.

◈

AS WE GO ALONG

A sharp shower came up that day just as the milk tester was passing on his way home, and as we make it a rule never to let any one go by that needs shelter, when he drove up to the big barn door it swung open so that he could drive in.

Live Stock and Dairy

After the horse had been put out, the call came for supper, and of course we invited the "tester man," as the children have come to call the farmer who comes over to the creamery once in about so often to test the milk at the village a little farther on, to take tea with us.

He is gone now, good old man, and we miss him; for he had a frank heart and knew a great deal about human nature. Some things he told us that afternoon made us sad; some glad. Some we would not have believed if they had come from some other man; all, we feel sure, were "as true as the world." It will surely help us all to think over the facts that came to us as we went along that day.

BE KIND TO THE DAIRY COW

"It seems as though some men must be keeping cows for the fun of it, and not because they are depending on what they get out of them for a living. What makes me think so is what I see as I go and come to my work down at the village. You know, it is real early when I get up in the morning. A good many times the farmer folks are just creeping out through the fog to get their cows; and the way they use them is enough to make a fellow homesick. A good many don't go out to the pastures at all. They just stand in the yard and send the dog out after the cows. And let me tell you, the way most dogs pitch into the cattle is a caution! Of course, there are now and then dogs that have more sense than their owners, and they bring the cows down all right. But these are scarce. Most of them snap and dive at the cows, grab them by the tail, as like as not, or nab them in the side. I know one cow that had her tail just broke off that way. It bled like a stuck pig, but the man didn't seem to make much fuss about it.

"I tried my own cows one day, to see what the effect of such treatment really is. The day before I had tested them, and set the figures down. Then the day afterward, when it came milking time, I went out into the yard and took a big club with me. I began to holler and yell at the cows and swing the club around my head. Well, sir, you just ought to have seen the cows look at me. You know they are not in the habit of having such works, and they looked as if they thought I must be crazy. They put up their heads and their eyes fairly stuck out in surprise.

"But I kept at it until I got them into the stable, and then I milked them. They were all wrought up and didn't give as much as usual. I weighed the milk, and compared it with that I got the day before. I lost a good many pounds of milk that day just by that foolish performance.

"That wasn't the worst of it, though. The milk I did get wasn't near as good as it would have been if I hadn't got on such a spree. I tested it just as carefully as I could, and I must say I was surprised myself. If the men who use their cows that way every day could have seen the figures I got that morning they never would be such fools again. It cost me a right smart lot to make that experiment, and I never tried it again.

"I don't know how it is that these things are so. Nobody does. Cows are a mystery to everybody. Something about their nervous make-up, though, affects the quality of their milk just as sure as the world. You can't do it and not pay the penalty. You may think you are doing your work all right—or maybe we had better put it that you don't think particularly about it, one way or another—but I know it does pay to use cows right all the time.

BE HONEST IN YOUR DEALINGS

"But there is one other thing I have seen as I have been going along that made me feel bad. You know, this creamery pays for milk according to what it will test. And we don't test only once in two weeks. Some creameries do. They take a sample every day and save it until they have a number of days' milk on hand, and then they have a composite test. That is a better way, of course. But this creamery tests only once in two weeks. Well, it seems tough to say it, but we know that a good many folks go out in the morning after the milk has stood all night in the can, and dip off some of the cream to use in the house. Maybe they want to make a cake or something of that sort. Now that is not fair to the rest of the folks who patronize the creamery. It makes the milk that has been dipped a little poorer and affects the whole skimming—not but a little, of course, but it is a little, and it is not just a square way of doing. Now is it?"

And how could we say that it was? I believe the folks who do this do not stop to think what a serious thing they are doing. If they did, it does not seem as if they would ever do it again. The right way, and the only honest way, if we want some cream to use, is to save out some milk and let the cream rise on it. I have hesitated about ever saying anything about this, because I am jealous for the name of the farmer folks; but let's make it a rule never to make such a slip again. We know, when we think of it, that it is not right. Right is right, always.

EDGAR L. VINCENT.

◈

FEEDING BEETS TO EWES

One of our Oregon readers writes that two years ago he fed mangel beets to his ewes in lamb, and lost quite a large percentage of the lambs, but did not know the cause. Some of the lambs died after they were twenty-four hours old. Now he wants to know just what bad effect the feeding of beets has on ewes in lamb, and whether it would be dangerous to feed beets to cows before calving.

Sheep raisers are not all of the same opinion on this question, and I know of some of them who feed small quantities of beets to their sheep before lambing, and claim it keeps them in good condition and shows no ill effects. I have usually fed mangels to my cows even in the fore part of the winter, before they came in, and never noticed any ill results from the practise.

It is not necessary, and possibly it would not be safe, to feed mangels or other succulent roots to cows after they have become dry and before they come in. This I believe will be found to be the case with sheep. When these animals are giving milk, succulent roots may be fed in almost unlimited quantities without fear.

I grow a good supply of mangels every year without fail. The cattle want them and need them, and although they consist mostly of water, and the actual nutriment in them is inconsiderable, yet it pays me well to raise and feed them. I prefer the varieties that give me the largest bulk, and seldom grow sugar beets for that reason.

T. GREINER.



FIRST PRIZE GUERNSEY HERD AT THE NATIONAL DAIRY SHOW, 1907

5,000 Grand Offers!
Doors, Windows, Millwork



50% Below Dealers' Prices



Here are a few samples of onr 5,000 Building Material Bargains: Doors 80c. Windows 69c. Screen Doors 93c. 108 sqnare feet Flint Coated Roofing, guaranteed 6 years, $1.41. 100 sqnare feet Tar Felt 30c. 45-light Hot Bed Sash $1.60. 100 lineal feet Quarter Ronnd 25c. Base Blocks 4c. Corner Blocks 2c. Glass, 8x10 inches, 3½c. 100 feet Hardwood Flooring 80c. Porch Brackets 5½c. Porch Spindles 1¼c. Hardwood Thresholds 5c. Adjustable Gable Ornaments 80c. We save yon at least 50 per cent on everything we sell for building honses, barns, out-bnildings, school honses, churches, stores, etc. It pays to bny from

80c Dealer's Price $2.00

69c Dealer's Price $1.75



The Largest Plant in America Selling Direct to Consumer.
Quality & Safe Delivery Guaranteed
Not in any Trust. Absolntely independent. Our stock is immense and we ship promptly. Everything is bright and new—no "wreck-age." All millwork strictly np to official grade adopted by the Sash, Door & Blind Manufactnrers' Association.

Get the Great Catalog FREE for a Postal

Best ROOFING 108 sq. ft. $1.41 FreeNails & Cement

It will save yon big money. Packed and jammed with bargains. Our responsibility vonched for by three Big Banks. Money Refunded and Freight Paid Both Ways if Goods are not Exactly as Represented. Write for Free Catalog.

GORDON, VAN TINE CO.
933 Case St. Davenport, Iowa
Send us your orders for lumber.

FOR THIS



WAIST HIGH

NEW LOW DOWN AMERICAN CREAM SEPARATOR

Guaranteed to skim closer than any separator in the world. Sold direct from the factory. We are the oldest exclusive manufacturers of hand separators in America. You save all agents', dealers' and even mail order house profits. We have the most liberal 30 DAYS' TRIAL, freight prepaid offer. Write for it today. Our new low down, waist high separator is the finest, highest quality machine on the market; no other separator compares with it in close skimming, ease of cleaning, easy running, simplicity, strength or quality. Our own (the manufacturer's) guarantee protects you on every AMERICAN machine. We can ship immediately. Write for our great offer and handsome free catalogue on our new waist high model. Address,

AMERICAN SEPARATOR CO. Box 1058, BAINBRIDGE, N. Y.

Seldom See



a big knee like this, but your horse may have a bunch or bruise on his Ankle, Hock, Stifle, Knee or Throat.

ABSORBINE

will clean them off without laying the horse up. No blister, no hair gone. $2.00 per bottle, delivered. Book 8-C free. ABSORBINE, JR., for mankind, $1.00. Removes Soft Bunches, Cures Varicose Veins, Varicocele, Hydrocele, Ruptured Muscles or Ligaments, Enlarged Glands. Allays Pain. Mfd. only by W. F. YOUNG, P. D. F., 23 Monmouth St., Springfield, Mass.

2 H.P. STATIONARY ENGINE $29.50 (ENGINE ONLY)

FOR FARM AND SHOP WORK. Start without cranking; no cams or gears. Burns Alcohol, Kerosene and Gasoline. All sizes in stock—2 to 20 horse-power. Steel connecting rods. Anti-Friction bearings; no vibration. Write for free catalog. Run Separators, Corn Shredders, Grist Mills, Pumps, Dynamos, etc.



DETROIT ENGINE WORKS, 133 Bellevue Ave., Detroit, Mich., U. S. A.

Saw Mills

If you need anything in saw mills or wood working machinery, send for our catalog. Our line is complete. Goods highest quality and prices reasonable. American Saw Mill Mach. Co., 130 Hope St., Hackettstown, N. J. New York Office, 602 Engineering Building.



MAKE YOUR HORSE YOUR FRIEND If he's a good horse he'll be better. If vicions or has bad habits all can be promptly and permanently cured by my system. Anyone can do it. Postal brings full information free. Write today. PROF. J. B. BEERY, Pleasant Hill, Ohio.

Daggett Calf Weaner
guaranteed to wean or money back.
CALF WEANER CO., Shenandoah, Iowa



NEWTON'S Heave, Cough, Distemper and Indigestion Cure. A veterinary Remedy for wind, throat and stomach troubles. *Strong recommends.* $1.00 per can, of dealers, or exp. prepaid. The Newton Remedy Co. Toledo, Ohio.

It is to your advantage to mention Farm and Fireside in writing to advertisers. Farm and Fireside folks get the very best attention.

DON'T BUY GASOLINE ENGINES UNTIL YOU INVESTIGATE "THE MASTER WORKMAN," a two-cylinder gasoline, kerosene or alcohol engine, superior to any one-cylinder engine; revolutionizing power. Its weight and bulk are half that of single cylinder engines, with greater durability. Costs Less to Buy—Less to Run. Quickly, easily started. Vibration practically overcome. Cheaply mounted on any wagon. It is a combination portable, stationary or traction engine. SEND FOR CATALOGUE. THE TEMPLE PUMP CO., Mfrs., Meagher and 15th Sts., Chicago. THIS IS OUR FIFTY-FIFTH YEAR.

SUBSCRIPTION PRICE

One Year (24 numbers) 25 cents
Five Years (120 numbers) $1.00

Entered at the Post Office at Springfield, Ohio, as Second-Class Mail Matter.

Subscriptions and all editorial letters should be sent to the offices at Springfield, Ohio, and letters for the Editor should be marked "Editor."

The date on the address label shows the time to which each subscriber has paid.

Subscribers receive this paper twice a month, which is twice as often as most other National farm journals are issued.

Silver, when sent through the mails, should be carefully wrapped in cloth or strong paper, so as not to wear a hole through the envelope.

When renewing your subscription, do not fail to say it is a **renewal.** If all our subscribers will do this a great deal of trouble will be avoided.



PUBLISHED BY
THE CROWELL PUBLISHING COMPANY
SPRINGFIELD, OHIO
Branch Offices: 11 East 24th St., New York City.
Tribune Building, Chicago, Ill.

ABOUT ADVERTISING

FARM AND FIRESIDE does not print advertisements generally known as "readers" in its editorial or news columns.

Mention FARM AND FIRESIDE when you write to our advertisers, and we guarantee you fair and square treatment.

Of course we do not undertake to adjust petty differences between subscribers and honest advertisers, but if any advertiser should defraud a subscriber, we stand ready to make good the loss incurred, provided we are notified within thirty days after the transaction.

FARM AND FIRESIDE is published on the 10th and 25th of each month. Copy for advertisements should be received twenty-five days in advance of publication date. $2.00 per agate line for both editions; $1.00 per agate line for the eastern or western edition singly. Eight words to the line, fourteen lines to the inch. Width of columns 2¼ inches, length of columns two hundred lines. 5% discount for cash with order. Three lines is smallest space accepted.

Letters regarding advertising should be sent to the New York address.

WHEREVER the general level of the ground water is near the surface the feeding space of plants is limited, for the roots will not extend into the soil containing free water. Under such conditions tile drains should be put in to carry off the excess of water.

◈

If you know the habits of the weeds that infest your land you will be aided in combating them. Observe the method by which a particular weed reproduces itself and the conditions under which it thrives, and then you can intelligently fight the pest.

◈

In preparing the soil for your crops, remember that the more thoroughly you pulverize the soil, the better you prepare it for the nourishment of the plants. Pulverization of the earth by tillage aids Nature in breaking up the soil grains, and thus affords more room for root growth.

◈

Are you aware of the amount of water required to produce mature crops? About ninety per cent of the mature corn crop is derived from water; hence the necessity of considering this in the cultivation of corn. The amount of water which falls on the land cannot be controlled, but any method which tends to conserve the moisture should be adopted.

◈

AN ENDORSEMENT OF A SOUND POLICY

In the April 29th issue of "Printer's Ink" is an interesting and instructive article on the farm paper as an advertising medium. It tells the story of a successful national advertiser who has used extensively both farm papers and general magazines for many years past. His conclusions, therefore, are not drawn from fancy or theory, but from the results of practical business experience. And it is not at all surprising that these conclusions constitute an unqualified endorsement of an honest, straightforward policy as the best for all concerned—subscribers, advertisers and publishers. It's the square deal that's business, not clever misrepresentation.

From the article we take the following extract, with a suggestion on the side that it is an excellent guide for the selection of good papers by subscribers:

"The farm paper as an advertising medium is generally good. At any rate, we have found it so, so far as paints go. There are different classes of farm papers, however. There is the farm paper with a large circulation based solely upon the helpfulness and interest of its reading columns. Such a paper is always a good advertising medium. Then there is the farm paper of small circulation, but one based solely upon merit and distributed in a highly specialized branch of agriculture. A paper of this character is also useful to the general advertiser. Then there is the paper of an indifferent circulation, and one built up either around the publisher's personality or through some other element quite independent of intrinsic merit. Papers of this class have never been resultful advertising mediums for us.

"The editorial policy of a farm paper, to make the paper desirable as an advertising medium, must be honest, broad and helpful. If the reader believes in his editor he will believe in the advertisements in his editor's paper. But his belief must be based on facts. Now, one of the chief complaints to be made against the farm paper is the foolish practise of 'writing up' its advertisers. It is harmful in many ways. For instance, with the view of pleasing us, one editor will write up a lengthy editorial on our product. White lead and linseed oil in this editorial will be the only thing worth while in the world of paints. Now, if he'd let it go at that we would probably be satisfied. But he doesn't. It is his impartiality, or, rather, his inconsistency, in the matter of these reading notices which causes the hitch. The next week after setting the editorial stamp of endorsement upon our paints, he turns around and gives his pen and literary powers fullest sway in the praise of another paint advertiser whose product can be endorsed only by condemning ours, as his claim is that white lead and linseed oil do not constitute good paint.

"Aside from the feelings of the advertisers, what must be those of the readers of the paper? What must be their faith in the opinions and writings of an editor who so openly contradicts himself? If he is 'off' in this instance, they are likely to argue, he is probably as far 'off' in other matters—if he has so little respect for his own editorial columns that he will deliberately misrepresent vital facts for the purpose of pleasing an advertiser, how much respect ought they, the readers, to have for him and his work?"

Washington as a Farmer

One of the points on which the biographers of Washington agree is that he was an ultra-methodical man, and that this trait was strongly manifested in his life as a farmer. His farm books remain to-day models of their sort. They indicate that he knew to a nicety the cost and the returns of crops on the Mount Vernon plantation. His records of plantings and clearings and harvestings; of purchases and expenditures; of his personal supervision of his broad acres—all these have now become sacredly preserved mementoes of his life. Even when the burden of the Revolutionary struggle was on his shoulders, and, later, the cares of the new-born nation, he directed by correspondence, so far as possible, the conducting of his big farm. And his farm, like other ventures, was a success.

The farmer of 1908 may well profit, if he has not already done so, by applying this lesson from Washington's character. It is reasonably certain that had he been slipshod in his methods, trusting to luck for results and to Nature unassisted for his living, letting his farm take care of itself, he never would have achieved the local reputation which later led Virginia to proudly push him into a field of undying fame.

Simple bookkeeping and a knowledge of the principles of profit and loss are as essential to the success of the farmer as they are to the merchant, for unless a farm is run in a business-like way, failure and debt must ensue. The little economies make the big aggregate saving and the little wastes make the heavy total deficit—the wide difference between comfort and security and penury and ruin. Washington's eye was on his farm and his hand on his accounts—an excellent practise to emulate. If the cherry-tree incident is true, he evidently conquered any tendencies toward wanton destruction, the salutary results of that episode as a veracity boomer, coupled with other services, certainly justifies our forgiveness for that one little side step from the path of economy.

◈

OBNOXIOUS ADVERTISING

A Cherokee senator has introduced in the Oklahoma legislature a bill providing for the abolishment of the wooden Indian as a store sign. To the Indians, especially to the highly civilized citizens of the new state, the use of the Indian effigy as a tobacco sign, or for any other advertising purpose, is an offense. Their protest is right, and it reflects credit on their manhood and good common sense. It is a manifestation of the genuine American spirit. It should meet with hearty approval everywhere, for everywhere in country and city nowadays there is so much coarse display advertising that is offensive. Ugly blotches of advertising stare at you from farm barns and from big billboards along the highways and railways. In the great cities it is even worse, for there it stares by day and glares by night.

It may be an open question whether advertising in offensive form does not repel more customers than it attracts. But if all the wooden Indians in the United States disappeared over night there would be no loss whatever to the tobacco trade. If advertisers realized what a gross offense to many people some of their displays are, they would have them taken down in a hurry. Every movement to do away with ugly, offensive advertising should be commended and aided

In a recent number of the "National Farmer and Stockman" Mr. Alva Agee says:

"Mr. J. Horace McFarland and his fellow-members of the American Civic Association are making a splendid fight against the defacement of the landscape by advertisers. It is an offense to many people to have the eye assailed on every hand by advice to buy this, that and the other brand of goods. It may be good advertising to use paint freely on barns, fences and billboards along our roads and railways, but certainly some people are kept from buying by such methods of gaining publicity. A farm has its attractiveness marred by the presence of such signs, and there would be less opportunity open to this kind of publicity if all farmers realized how unsightly it made their premises. These billboard advertisers certainly make New Jersey unsightly to the travelers on all railroads running into New York City. They cheapen and mar the country. The traveling public should uphold the hands of Mr. McFarland in the fight he is making against ugliness that is unnecessary."

The metropolis of the country seems to be easily the leader in obnoxious advertising. Along the lines running through New Jersey into New York City the railway billboard certainly flourishes to the limit, as a horrible example to the rest of the country. And in New York are many fine business buildings marred worse than the Jersey landscape. One of the magazine wits aptly styles great Broadway "Whisky-Sign Row." But the gross, flashy signs are not the only ones repugnant to good sense and taste. Another manifestation of the same spirit of greedy gain is found in many small ones that slap you in the face regardless of time and place. On many churches on the principal streets in New York are modest-looking signs that illustrate this point. At the left of the main entrance is the usual tablet giving the name of the church, the hours of the services, and the name of the pastor. At the right of the entrance is another tablet of the same size and style of lettering that is the business sign of So-and-So, Undertakers and Embalmers. By no stretch of the imagination can the stranger consider it a moral reminder that

"Though in midst of life we be
Snares of death surround us."

He must look upon it for what it is, a sordid, cold-hearted business advertisement out of its proper place.

Farm owners can aid greatly in the movement for civic improvement by covering up the big signs on their buildings with good paint, or even whitewash, and hereafter keeping the sign painter off their premises.

◈

A WARNING

You may receive a letter and circular matter from the National Publishing Company, Reliance Building, New York. The post office has issued a formal order against this concern, and also against the William A. Rogers Company of the same address, which is controlled by the same people.

Although we have never published any advertisements of this concern, we wish to warn our readers against any offers made by these people, and against sending them any money.

◈

In the Back Office

CAN YOU SOLVE THE ROOSEVELT PUZZLE?

Hundreds of thousands of people all over the country have tried to solve "The Mysterious Mr. Roosevelt" Puzzle and find the two pictures that are exactly alike among these five hundred photographs of the President.

Have *you* been able to do it? Mighty few have. In our next number, June 10th, we will solve for the benefit of all our readers this unusual puzzle, and show just which two pictures are alike. Then you will know whether or not the solutions you have probably worked out are correct. In order to know whether or not your subscription expires this month, see page 3. If a blue mark is there your subscription has expired

◈

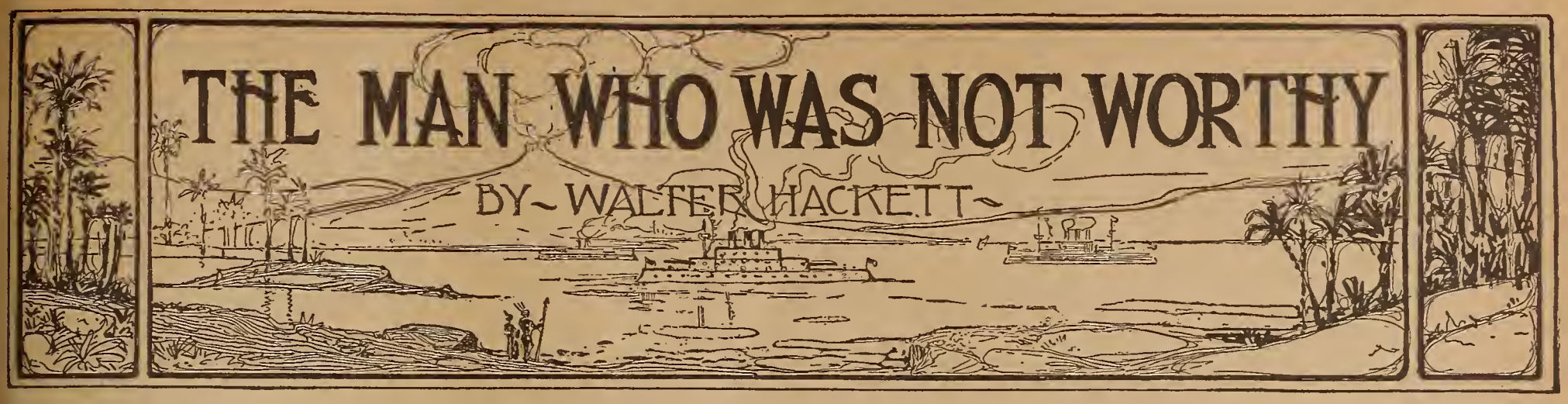
"MEMORIES"—A CHARACTER STUDY

In this number we present to our readers a reproduction of one of the most remarkable paintings of recent years. The picture of this grand old soldier as he marches in the parade, his eyes almost closed in reverie, his "memories" upon the days of '61, should touch the heart of every true American.



Copyright, 1908, by W. Balfour Ker

MEMORIES—PAINTED BY WILLIAM BALFOUR KER



IT WAS at the moment of victory—just at the very instant when we had managed to put those red Pulaganes to flight—that young Clay fell with a bullet in his side and another in his lungs. He was right at my side when he was hit—so close, in fact, that I heard the quick whistling breath he drew as he crumpled up and fell forward on his face. I was beside him almost at once. The enemy was in full flight and there was no need to give further thought to them, while the man whose gallantry had brought us the victory lay prone before us, his life blood making an ever-widening circle on the dry earth about him.

A dozen times that hot, cruel day Clay's dauntless courage had saved us from the ignominy of defeat and the disgrace of flight. Wherever men were wavering, with a marvelous instinct he threw himself among them and by his own superb example brought them to themselves. Scarcely an instant passed during the day that we did not find him exposed to danger; yet it seemed that he bore a charmed life, for until the very end of the engagement he escaped unscathed. The gallant way in which he bore himself that day is still the boast of the regiment.

It was while I was bending over him that I learned what it was that had prompted his courage—a woman. Even as I bent down above him I heard him whisper her name—Ethel—through his bloodless lips that were already flecked with foam. It was the way that he uttered it, I think—a certain lingering, hopeless sadness, even in that stifled whisper—that told me something else. Because of that woman he had gone into battle with but one hope, one prayer in his heart—to die.

It was sad enough for me to see him lying there, his pale face white and drawn and the gay light vanished from his eyes, but harder still to realize the sorrow that had driven him to it. Always I had hoped—had liked to believe—that his enlisting was only a boyish prank, the result, perhaps, of some harum-scarum adventure, but now I knew that it was a tragedy that had caused it. So it was that my heart was even heavier than the sight of his falling had made it, as I lifted him gently in my arms, as though he was but a tired little child, and bore him toward the hospital tent.

While There is Life There is Hope

We were in the hills some fifty miles above Samar, and only that day a surgeon and a corps of Red Cross nurses had arrived. Indeed, the first glimpse I had of the doctor was when I entered the tent bearing the boy. He was a small, precise man, all nerves and no blood—a man one would have taken for a confirmed invalid, so wasted was his body, until one looked in the depths of his steady gray eyes. After that the most careless of observers would have known that here was a man whose strength of brain and will would supply any lack of physical power. I can remember even then, when my grief for the boy was clutching my heart, that the calm precision and unflinching swiftness of his every movement won from me a boundless admiration.

I had scarcely been in the tent a moment before he had laid poor Clay upon the operating table and made a searching, though marvelously rapid, examination of his wounds; then he raised his eyes to mine. What I saw in them stunned me.

"No hope?" I whispered.

"While there is life there is always hope," was the dry, hard answer. "But—" and he twisted his shoulders into an odd shrug.

Then, without heeding my evident grief, he summoned an assistant and set about performing an operation to remove the bullets from the poor boy's body.

Of that operation I remember scarcely anything. I watched it in a daze. Not until both bullets had been removed did I recover my self-possession, and then, strangely enough, it was the voice of Clay that called me back. "Ethel," he whispered once more, just as I had heard him whisper it when he first lay stricken on the sun-dried field. As the surgeon heard the whispered name I saw a sudden thought flash across his face, an expression which seemed to say that he had suddenly solved a problem that had puzzled him. Then he cocked his head on one side and bent over the wounded man to listen.

Science Has Done Everything Possible

The latter, who was delirious, moved about uneasily for a long time. At last, however, he spoke once more.

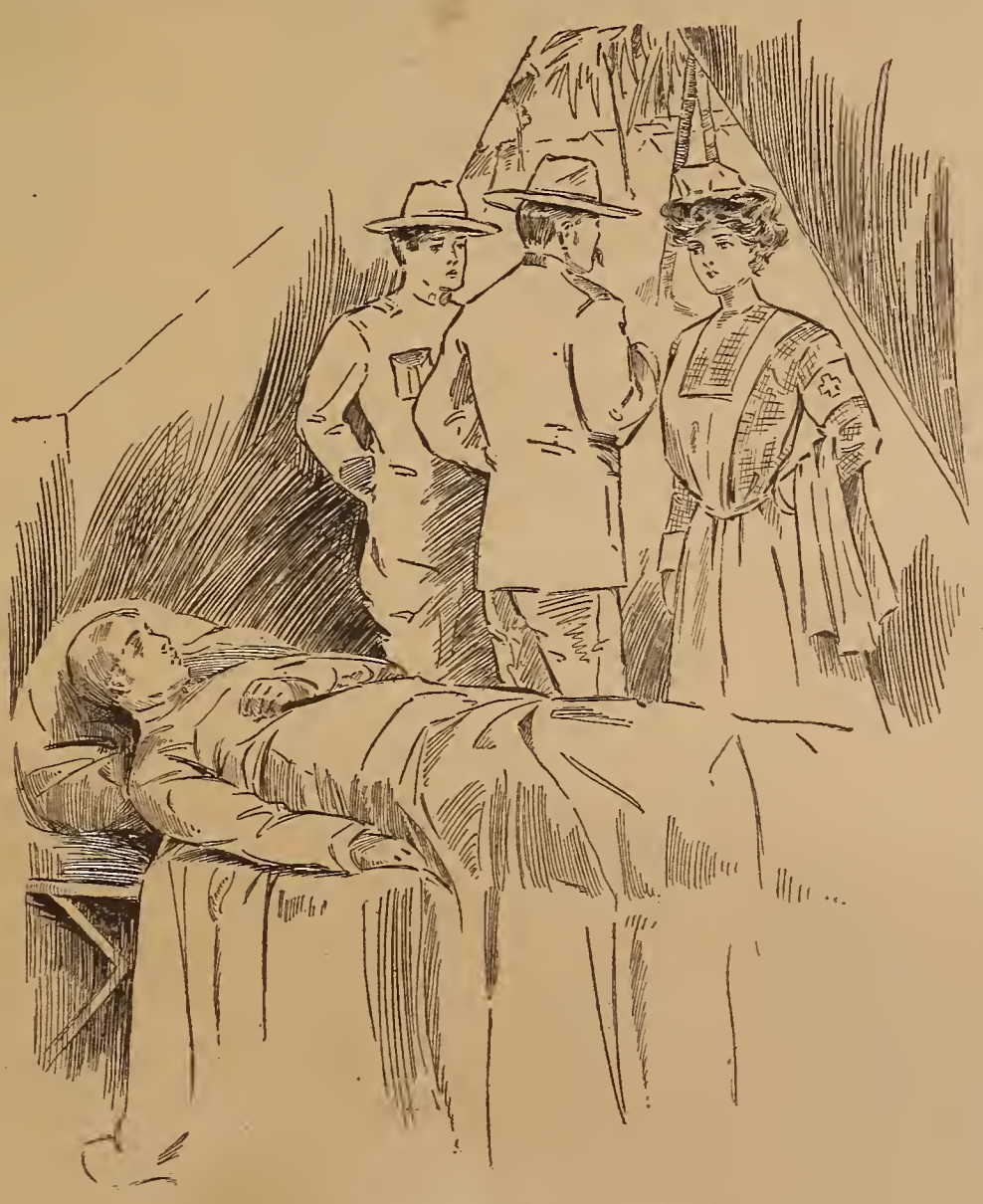
"Ethel," he said, "oh, my dear, my dear, won't you forgive me? Even now?"

There was a world of pathos in his voice, an infinite yearning which fairly wrung my heart strings as I listened. It sent the hot tears to my eyes—how many years they had been tearless—and fairly blinded me.

"I know," he went on in the same tragically hopeless tone, "I know that you were right to act as you did—to send me away from you. I was unworthy—utterly unworthy; but, Ethel, now that I am dying—now that I have paid the price—won't you come to me and say that you forgive me? I cannot die peacefully until you tell me that."

All this had been uttered quietly. But now all at once he raised himself upon one arm, and stretching his other out toward the blank space at which his wild eyes stared, he cried in a loud voice:

"Ethel! Ethel! For God's sake!"



"'You are to let the patient there in the corner make love to you'"

Even now, as I write, between my eyes and the paper there comes once more the picture of that strange wild scene. I am standing again in the rude tent lit only by the blood and fire of the setting sun, watching a white-faced, dying man stretching his arms out for the woman of whom he was not worthy. By his side I see once more the thin-lipped, sallow-faced doctor eyeing him not with pity nor commiseration, but with a certain scientific interest (the same interest a collector might evince over a rare antique) that was absolutely devoid of feeling.

It was the surgeon who first moved after the boy's cry. With a sudden impatient movement that was singularly characteristic he turned toward me.

"There is one chance for this man's life," he announced briefly, "and I am going to take it."

"Another operation?" I gasped.

A dry, sour smile flitted across his face.

"No," he replied; "science has done everything possible—we are going to have recourse to sentiment now." He said the last words with a bitter sneer. The fact that science was not wholly sufficient for any emergency seemed to vex him, to disgust him utterly with life.

The Nurse's Duty

He still wore the same petulant expression, when, after a moment's absence from the tent, he returned, followed by a woman garbed as a nurse. She was a young woman—young and beautiful, with great, dark, sad eyes and a face that showed the traces of much suffering. She did not look to the right nor to the left as she entered, but stood erect by the opening of the tent, gazing straight at the surgeon, who was eyeing her closely.

"Miss Benson," he said, "when you came to join me at Manila I warned you that you would be required to do many things which would be most unpleasant, that a nurse's life was not a bed of roses. You persisted in your determination to come, however, so I have no hesitation in giving you this task."

He paused, and for the first time she spoke. What a wonderful voice she had! How sweet! How tender!

"What is my task?" she asked.

"You are to let the patient there in the corner make love to you," was the crisp response. "And to make love to him."

She made no answer. She did not even start at such an amazing order, but I saw a faint tinge of color sweep over her pale cheeks. The doctor saw it, too, and I think felt the reproof it conveyed, for he raised his hand quickly.

"Wait," he put in quickly, "and I will explain my request. The man is dying, will die, I think, within an hour, unless one thing is given him—hope. The only hope in the world that can come to him is from a woman—a woman he loves. He has been calling for her constantly in his delirium. It is possible that if he calls and you answer, his fevered brain may mistake you for the woman he loves, and that underneath your caresses he may regain the hope that will save him." He paused for a time, and then went on, "I know that such a task is difficult, and although I have the right, I do not order you to do it, I merely suggest it. But in deciding, remember a man's life is at stake." Again he paused. The girl had grown very pale, but her eyes did not shift their gaze. She still looked steadily toward him. After a long time he spoke once more.

"Is it yes or no?"

"It is yes," she answered.

Ever since the girl had entered Clay had made no sign nor uttered a sound. He had lain just as he had fallen back exhausted by his last effort. Now, however, as the girl's firm voice rang through the quiet tent, he roused himself and peered through the gloom with burning eyes.

"Ethel," he whispered—and even in the whispered tone the change in his voice was marvelous. The boyishness I loved, the lack of which had made it so tragic, had come again once more. "Ethel—is it you? Have you really come back to me?"

Hope Renewed

I shall never forget the girl's face as she heard him. It was white and drawn with anguish, and it seemed as though she was certain to swoon. It was only with an effort that she took all her strength, that she conquered her weakness, and turned for the first time toward him. Slowly, very slowly, she turned her head until her eyes met his.

"Ethel," he whispered once again.

In silence she crossed the room, and kneeling beside him, kissed him full upon the lips.

"My love," she breathed softly, "oh, my only love!"

Even now I cannot write of the joy that sprang into the boy's face without tears. It was wonderful. It transformed him. It gave him strength enough even to throw his wasted arm about her neck and rest his wan face upon her breast.

Never, I believe, have I witnessed a scene more tragic in its intensity. A dying man saved by a lie, won back from death by false caresses. It seemed almost too cruel to bring him back to life, only to cheat him of his happiness. The thought of it shook me through and through, and even that bloodless doctor was moved by it.

But it succeeded. The hope that was kindled in his heart drove back the grim hand of death. All that night the woman knelt by his cot, holding him in her arms. A thousand times she told him that she forgave him, a thousand times she promised to become his wife as soon as ever he was well and strong. She called him all the old dear names of their happier days after he had prompted her in them, and together, while he laughed happily, they planned a glowing future.

For three days she scarcely left his side, for three days—I shall never forget the pathos of it all—she held him almost constantly in her arms, and then at last came his first long sleep, the slumber that betokened the return of health.

The surgeon and I were in the tent as he sank into it. Almost the instant he had done so, the surgeon stepped forward and tapped the girl upon the shoulder.

"Miss Benson," he said sharply, "be prepared to leave for Samar in an hour."

The girl turned and looked at him, a sudden terror gleaming in her eyes—a

[CONCLUDED ON PAGE 19]

HOUSEHOLD DEPARTMENT



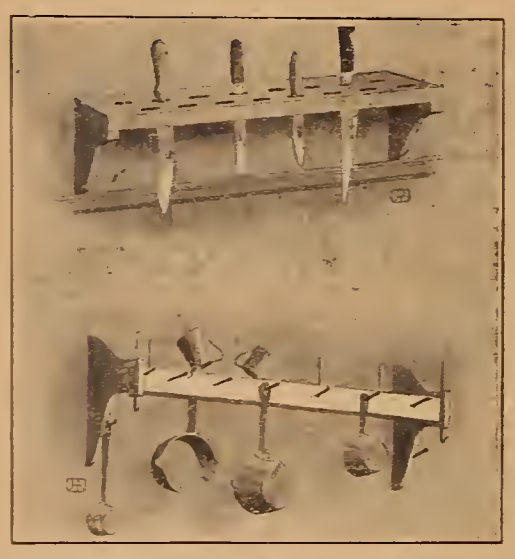
Easily Constructed Conveniences for Kitchen, Bedroom and Den

It is not a difficult matter for one who is capable of driving tacks or sawing wood to make some very useful articles for the home. Simple little things often mean much in the way of a convenience, and are well worth the short time used in constructing them.

The kitchen closet is usually the storage place for pots and pans, kettles, sauce pans and the various accessories of the cooking department, while the knives, forks, spoons and other small things are thrown carelessly into trays and boxes, that in time become laden with dust and germs. The problem of keeping things in place is not so difficult if proper and practical contrivances are arranged for them.

The knife stick shown in the accompanying illustration is easily made, and serves the purpose of keeping the various knives used in the kitchen in plain sight where they can be easily reached. For the construction of this convenient little article, use a piece of board four inches wide and twenty-four inches long, and two wooden or iron brackets. With a gimlet or a brace and bit bore holes an inch apart, in pairs, along both edges of the board, and cut away the wood between the holes. The edges of the slots thus made should be smoothed with sandpaper. The board is then ready to be mounted on the brackets and made fast to the wall over a wainscot or in any other convenient position. A smaller knife stick for paring knives is very convenient if fastened near the sink. Two or three coats of white or enamel paint give a neat finish to the knife stick. Care should be taken always to have the knives dry and perfectly clean before they are dropped into the slots.

In the same illustration is shown a rack for small sauce pans, tin measuring cups and dippers. A stick four inches wide and thirty-six inches long is held in place by two brackets, which enable it to project about six inches out from the wall. These brackets are fourteen inches long and eight



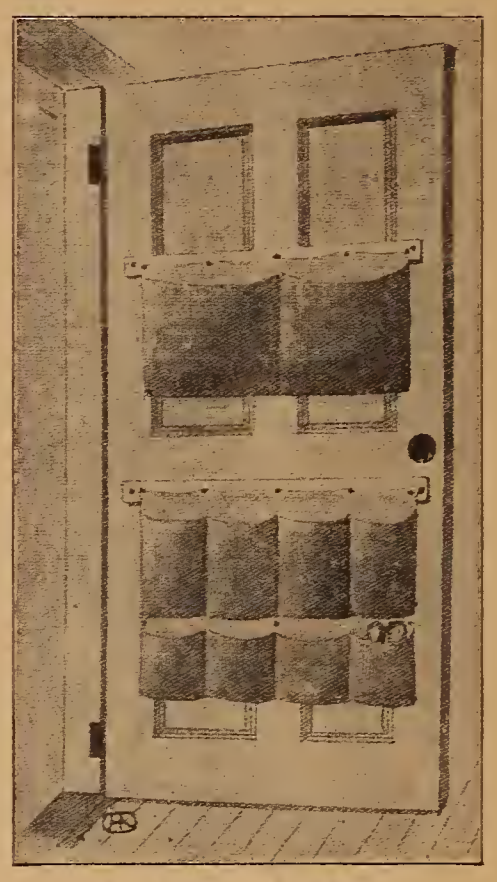
KNIFE STICK AND SAUCE-PAN RACK

inches wide. The stick is held in place by means of three screws driven through the side of each bracket end and into the end of the stick. Along the top of the strip and on the brackets round pins are driven into holes bored with a bit. These pegs, which are for cups and measures, should be of hard wood, so that they will not easily break. Galvanized nails, from which utensils can be suspended, are driven into the face and back of the strip.

In the center illustration are shown convenient pockets for the inside of closet doors. These may be used to contain slippers, dust cloths, strings, and the innumerable little odds and ends that should have a place, or they may be used for soiled collars and cuffs. These pockets are made of denim or some other stout goods, and are tacked fast to braces arranged on the inside of the door as shown in the illustration.

An idea for an odd book rack to hang against the wall is suggested in the third illustration. Its size may be governed by the space it is desired to fill, but if a plain wall is available for its hanging place, it might be well to make it three feet long, with sides three feet three inches high. The shelves can be ten inches apart, and openings are made in the sides between the shelves as shown. At the back are placed five upright, ornamental strips to strengthen the shelves and add a decorative feature to the construction. These strips may be carved in any desired manner. The design shown in the accompanying illustration is a good one, simple and dignified and within the ability of an unskilled person. The ends of the shelves are narrowed to slip into slits made for them in the sides of the rack, where they are held in place by means of wooden pins as shown in the illustration. This book rack is distinctly ornamental and will be found especially suitable in a bedroom or den where there is no room for the more bulky shelves that rest on the floor, or where few books are desired rather than a large library. It can be made from any desirable wood, and if finished in a way to match the furniture of a room, a very acceptable result can be obtained. Following the same instructions, some very attractive brackets may be made to match the bookcase.

A box can easily be converted into a shoe nest like the one shown in the illustration, where shoes, slippers and rubbers may be kept in orderly condition. This double-decked shoe nest requires but little skill and very little practical knowledge to make. It can be made any size, and the drawing shows clearly how it can be made to fit the space in any closet. In a small closet no leg will be required under one corner of the nest, as both ends can rest on the top of the surbase. In a large closet, however, where it is not desired to extend it along the side, the unsupported end is held up by a leg.



POCKETS FOR THE CLOSET DOOR



A DECORATIVE AND EASILY MADE BOOK RACK

Things to Do With the Ham Bone

The ham bone stripped of every available bit of frying meat is not very attractive looking, yet a number of appetizing dishes may be made from the scraps on it. Try the following:

Ham Bone Pot Pie—After boiling the bone thoroughly, carefully skim off the fat. Add potatoes cut rather fine, and dumplings made after any good recipe. Cook the dumplings twenty minutes. The meat should fall from the bone before adding the dumplings.

Ham Sandwiches—Boil the bone, and pick off the lean meat. Pass it through a meat grinder or chop fine in a bowl with a hash knife. Season with pepper and mustard, and spread evenly on thinly cut slices of buttered bread. Nice for school lunch pails or supper. M. M.

The Appetizing Asparagus

Asparagus Mold—Make a cream sauce with two tablespoonfuls each of flour and butter, one half teaspoonful of salt, a dash or two of pepper and one cupful of cream. When smooth and boiling add one half cupful of cold chicken or veal chopped fine, one cupful of cooked asparagus tips and four well-beaten eggs. Line a well-buttered mold with cooked asparagus tips, and turn in the asparagus mixture. Set the mold in a dish of hot water, and bake in a hot oven until the center is firm. Then let stand a few minutes, invert over a shallow heated dish, and gently lift the mold. Serve at once with butter sauce.

Kitchen Discoveries

To rid a place of red ants, grease a plate with lard, and set it over night where the ants are troublesome. Place three or four sticks leading up to the plate, so that they can get to it easily. In the morning the plate will be covered with the ants. They may be killed by immersing the plate in hot water.

To keep an egg several days while using it for coffee, use an egg cup with the small end up. Set the egg in the cup and break a small hole in it. Use a little of the egg at a time, as a little will clear the coffee as well as half an egg. An egg may be kept good three or four days in this way.

Keep a box or bag in the kitchen for scraps of clean rags and cuttings from sewing or mending. These rags will serve a double purpose. They may be used to wipe off greasy plates from each meal, and all greasy cooking utensils before they are put in the dish water. This saves a lot of greasy dish water, which is ruinous to the hands. Then, after using, the rags may be thrown into the stove. This helps the fire along.

Painted furniture and floors can be made to look as bright as new if they are occasionally washed with skim milk or milk and water. If the milk is slightly sour, but not at all thickened, it will add to the brightening process. Care should be taken never to wash painted furniture with soap, as it dulls it and takes away the new, shiny look.

Oilcloth can be made to last much longer by an occasional rub with a mixture of beeswax and turpentine.

Paint which the painters always seem to spatter on window glass can be removed by rubbing it well with hot, sharp vinegar.

After ironing linen, place it near a good fire or in the heat of the sun until perfectly dry, as the garments will then be made stiffer than if allowed to dry slowly. If the linen is a bit scorched, wet it with cold water and hang it in the sun.

An excellent thing for the laundry is the following mixture: Take two ounces of fine white gum-arabic powder, put it in a pitcher, and pour on a pint of boiling water; cover tight, and let it stand over night. In the morning strain,



CONVENIENT RECEPTACLE FOR SHOES

bottle, and cork. A tablespoonful of this stirred into a pint of starch made in the usual way will give a new look to the clothes.

To remove the white substance that accumulates in the tops of fruit jars, boil the tops in strong soda water. Clean bottles or decanters with small gravel stones. Never use shot, as some housewives do, for lead poisoning may result.

Spirits of ammonia diluted with water, if applied with a sponge or flannel to discolored spots on the carpets or garments, will often restore the color. When cleaning cloth or a garment with this solution it is well to rub it with a piece of the same material that is being cleansed.

Have screw eyes in the end of the handles of brooms, mops, etc., and hang them up.

Much fuel can be saved by having dampers in the stovepipes.

A little thing that saves steps is a shelf against the chimney, on which to keep the stove brush. This is a much handier place for it than the sink closet. Put the shelf high enough so that you will not have to stoop to reach it. Such a shelf covered with oilcloth is easily kept clean.

A Chapter on Stains

Acid stains, such as vinegar, sour wine and fruit, can be removed from white cotton or linen cloth by pouring boiling water through it. This method is also efficacious in removing coffee stains.

For chocolate and cocoa stains use cold water first, then pour boiling water through the stained portion.

To eradicate cream stains use household ammonia or aqua ammonia diluted with four parts of water. Dampen the spots with the ammonia, lay fresh blotting paper over them, and iron lightly. This also removes grease from white goods.

For linen badly stained with sweet cream try the following: Mix five parts of glycerine with five parts of water, and add one fourth part ammonia. Apply to the stain with a soft brush, allow it to remain six or eight hours, then rub with a clean cloth. Remove the remaining dry substance with a knife. The stained places should then be brushed over with clean water, pressed between cloths, and dried. If the stain still remains, a rubbing with dry bread may take it off.

Grass stains on white dresses may be removed by washing the spots first in alcohol, then in clear water.

To remove grease spots from carpets or cloth fabrics, place fresh blotting paper over the spots, and iron with a hot iron. If the spots are very large and obstinate, use a paste made of fuller's earth, brushing it off when dry, and renewing until the stain is removed. Use gall in the paste, to preserve the colors of the fabric treated.

One Mother's Farm University

BY EDGAR L. VINCENT

"Do you suppose we could do it, mother?"

"I am sure we can, my son. We will give the books the right of way for the coming week, and by the time the examination comes I am sure you will be ready for it."

There was such a hopeful ring in the tone of the mother's voice that the boy gathered courage and started for the room where he kept his school books.

There was only a week in which to get ready for the examination prescribed for the entrance to the state normal school. They were away out on a farm, where schools are scarce and private tutors cannot be had for the asking. But the mother had been a teacher before she became a farmer's wife, and knew something of what would be expected of her boy at the entrance examination.

For a week little was seen of the two outside of the farmhouse. There was a steady hum of voices as they plodded on, making a thorough review of the subjects in which the lad was to be tested. When his brain became tired, they laid everything aside and the boy went out on the farm to help his father, while the mother took up her household duties. So it went for days.

Then early one morning, while the birds were singing their wake-up songs, the boy wheeled away ten miles to take a train for the normal school where the examination was going to be held.

"You will make it all right, my boy! Only don't get excited! Think and think before you put anything down on paper! Remember, we are all hoping for you."

And the lad did make his entrance at the farm mother's university, and went away happy. He and mother had done it all by themselves.

Then other boys and girls came to the farm home for help. One young lady wished to take up German. The farmer's wife was happy that she could help her. Another young lady needed a little reviewing in higher algebra to enable her to get a state teacher's certificate. Steadily they plodded through the work, and won the point.

Then came a hard test for the farmer mother. A teacher came asking for help in a particular branch of the sciences.

"I never have taken that myself," was the answer the farmer's wife gave her, "but if you are willing to come, we will take it up together and see what we can do."

It would have interested you to have listened to the homely illustrations the farmer's wife made to help her younger student friend. With no apparatus at hand save the kettles and things about the kitchen, they gained such a good working knowledge of the subject that the young lady went away, took her examination, and came back happy in the thought that she had finished up this, the last subject which stood between her and a state diploma.

It would take too long to tell all that was accomplished in that farmhouse school. More and more came for help, and it was all given so quietly and unobtrusively that few outside the little circle of friends who were most particularly interested knew anything about it. In the little library room, which had been a small bedroom, but was now turned into a school room, there was a fine assortment of books; these were often consulted, and many of them taken away to the neighboring farms for reading.

Stop a moment and think what must have been the value of this work not only to the young people who came to be helped, but also to those whom they were able to help after they went out to take up life's real duties! Can it not be readily supposed that those who knew of the faithful work done in the home of the farmer's wife were inspired to do better work in their own homes? Life is a contagious thing. A bad man spreads a bad disease everywhere he goes, while the good man carries something with him that makes for better things wherever he is known.

There was, too, a fine reflex influence in this work. It helped the farmer's wife to keep her mind from decay. Exercise closes the door to the enemies which steal away the keenness of intellect, and there is no reason why there should not be just as ready a mind in old age as in earlier life. We may keep bright if we will.

All over the country there are farmers' wives who are working for the good of the communities in which they live. Who can estimate the power they wield? They are everywhere a molding influence for good that only eternity can fully reward.

But are there not other farms on which men and women could do more toward keeping up with the life of the times if they would? Let's not bury ourselves when we go out on the farms. Let's do all in our power to keep bright ourselves and to help others.



Needlework Designs

By Evelyn Parsons



Embroidered Necessities

A necessity for almost every woman is a shopping bag, something in which to keep all the little bundles that accumulate so rapidly and are so hard to carry in the hands, and that slip out when tucked under the arm, causing all sorts of annoyance. A particularly pretty and serviceable shopping bag is shown in the illustration No. 9. It is made of a heavy brown crash and is embroidered with coarse cotton. The flowers are worked in two shades of blue, with golden-brown centers. The stems and leaves are in green. A very pretty effect is secured by making the corner flowers a darker blue than the others. The buttonhole, or so-called Wallachian, stitch (which was explained in a previous number) is used. As the crash is a strong, heavy material, it may be made up without a lining. In the pattern a deep heading of the crash is allowed for. The silk gathering cord, which finishes the bag, is of the same color as the goods.



No. 9—Shopping Bag. Stamped on Crash, 40 Cents; Thread, 15 Cents; Silk Cord, 15 Cents

Can a woman ever have too many centerpieces? They are such universally useful things. One uses them on all the tables where lamps are kept, and under flower vases, and for the fern on the dining-room table. Among the many attractive designs in centerpieces, one of the prettiest is the new butterfly design (No. 10), which ought to please every housewife. It is a small centerpiece, sixteen inches across, just the right size for a lamp mat. The edge, which is stamped in large and small scallops, is buttonholed with white. The coronation cord, which is used to cover the lines of the design in the center, is a beautiful shade of pink. The body of the butterfly and the dots and outlines of the wings are also worked in pink. Use two threads of the pink cotton for the solid embroidery and for sewing on the cord.



No. 10—Butterfly Centerpiece. Stamped on White Linen, 35 Cents; Coronation Cord and Thread, 25 Cents

In these days of the ever-present couch the sofa pillow is another article that is in great demand. A very new and original design is shown on the cushion (No. 11) pictured at the bottom of this page. This pillow, which is for everyday use, is made of serviceable brown crash, with embroidery in blue, red, green and black. These colors are arranged with a very pleasing effect, and being dark, they do not easily show soil and wear. The deep shades also give a rich appearance to the cushion. The long middle pieces of the figures are black and the pieces just at the sides are green. The piece directly above the black piece is red, and at either side of the red, blue is used, and below this, red again. Each part of the design is outlined with black. The stitches are taken straight across the space. If one has any trouble about keeping the edges perfectly even, the imperfections will be covered with the outline of black.



No. 11—Sofa Cushion. Stamped on Brown Crash, 60 Cents; Colored Thread, 35 Cents

◈

Porch Pillows

The days are near at hand now when one can sit out of doors in the few spare moments, and rest or sew on the porch. A hammock provides an ideal resting place, and also, if swung low enough, a good playing place for the children. The most comfortable hammocks are canvas ones and those made of cords. These adapt themselves readily to the figure, and can be made very comfortable with a couple of balsam pillows. Of course, the filling of these hammock pillows need not necessarily be pine needles. Indeed, in some parts of the country it would not be possible. But almost everywhere one can get hops and clover, which make cool and fragrant fillings. The husks from green corn may be saved, and with some lemon verbena, geranium, lavender or other leaves to give fragrance, they make particularly nice pillow fillings. Gathering material and stuffing the pillows is work that the children can do easily, and in a very short time and with much pleasure in the sweet-smelling grasses.

The pillows suggested are much better than hair, which is very stiff and uncomfortable, and cooler than feathers or down, which are so soft and hot. The coverings of these cushions should always be of some material that can be laundered, such as linen, denim, gingham, Turkey-red calico or awning cloth. The burlap of which sacks are made is an excellent covering for pillows that have to stand lots of wear, or for floor cushions. To make the covers so that they can be removed and laundered, fasten a row of buttons in under the ruffle of one edge and work buttonholes to correspond with them; or tie the ends together with a tape or ribbon.

There is another method of fastening this open side of the pillow slip, and one which is quicker and handier. If you are within reach of any department store, send for strips of patent fasteners. These come attached to black and white tapes and are warranted not to rust. Sewed on the sides of the pillow slip they can be easily snapped together or pulled open. All of these cushions should be covered with good, strong ticking under the outside cover. If the cushions are embroidered in bold, conventional patterns, linen or cotton wash flosses should be used.

Initials cut from some other material, and applied, make pretty decorations.

When Ordering Embroidery Patterns

IMPORTANT NOTICE—Remit by money order, currency or stamps. To the amount of any check drawn on a bank not in New York City, ten cents must be added for exchange.

We cannot be responsible for packages sent through the mail, unless the necessary stamps or money for registration are added.

Note—We ask you if possible to send postal money orders made payable to Farm and Fireside in preference to stamps.

Address "Embroidery Department," Farm and Fireside, Springfield, Ohio.

1 to 3

Saving a cent on a paper of pins and buying three papers, is poor economy; when *one* paper of

STEWART'S DUPLEX SAFETY PINS

will outlast three of any other kind. They are the best because the stiffer wire doesn't bend, and they stay fastened. The sharp points and the guarded spring prevent tearing the cloth. Fasten from either side, but can't slip through. The only pin that guarantees safety and comfort.

If your dealer does not keep them, send us his name and address with four cents in stamps for samples, retailing for twice the money. Examine them carefully, and you'll always ask for Stewart's Duplex Safety Pins. See that all cards bear the name of

CONSOLIDATED SAFETY PIN CO.
169 Farrand St. Bloomfield, N. J.

MILLION CLUB STAR LIST

of Farm and Fireside Representatives

This list includes only those who got on the Star List during April. It is complete up to May 1st. Each of the representatives named below has won the special Million Club badge and obtained his or her own subscription free, in addition to many other valuable rewards.

Mrs. E. J. Newton, Maryland.
B. D. Akins, Alabama.
J. S. Wilkinson, Maine.
E. K. Reuck, California.
Rubie Moore, North Carolina.
Wm. Boyer Scringeour, Texas.
Leslie F. Corf, Connecticut.
Master Howard Sherman, Massachusetts.
Mrs. R. E. Deeds, Ohio.
Mrs. L. A. Yeager, Kansas.
Loretta D. Stigall, Kentucky.
Mrs. Annie Kendrick, Louisiana.
Harry L. Moore, Illinois.
Virgil Etchison, Indiana.
Mrs. Bertha Kelly, New York.
Mrs. Ambrose Powell, North Carolina.
Minnie Wihbeler, Indiana.
Pearl Dalton, South Carolina.
Elsie Sayre, Washington.
Mary Weaver, Indiana.
Mrs. P. McMillan, Mississippi.
Freda M. Langdon, California.
Helen A. Washbur, Missouri.
John Minter, Illinois.
Joseph Stones, New Jersey.
W. H. Reece, West Virginia.
Lisette Hassler, California.
Ralph C. Payne, Maryland.
W. R. Crain, Illinois.
Mrs. D. C. Hamilton, Illinois.
Ethel Woods, North Carolina.
Pearl Vivrett, Kentucky.
J. E. Roberts, Sr., Kansas.
Mrs. Susan Hardin, Illinois.

If you want to know all about the Million Club and how you can get on the Star List, address

MERCHANDISE PAYMENT DEPARTMENT
Farm and Fireside Springfield, Ohio

CREDIT TO THE NATION
BUY NOW — PAY LATER



Send postal card right away for catalog No. 42, which tells the details of the richest line of house furnishings, furniture, carpets, beds and bedding, stoves and ranges, refrigerators, go-carts, ever offered on the most liberal open account credit system. No matter where you live, select what you want from the catalog and send for it. We ship you the goods at once, so you have the use of them while paying us a small sum every month.

Send us $1 Cash and we will ship you this Beautiful Tufted Rocker, upholstered in Black Sylvan Leather, nearest to real leather.
PRICE $5.75
$1 cash; 50c monthly

SPEAR & CO
PENN AVENUE
PITTSBURGH, PA. U.S.A.

Reliable Help for Washing



doesn't talk back or leave you when most needed. The Syracuse "EASY" nonfriction steel washer is that kind. Ask now for our free book. Pages 3-20 tell you how to cut your washing expense in half and have your clothes, white, clean and sweet, the way you like them.
Attractive proposition for agents.
DODGE & ZUILL
234 F Dillaye Bldg., Syracuse, N.Y.

Information About Minnesota

200 page book compiled by the State, describing industries, crops, live-stock, property values, schools, churches and towns of each County, and Minnesota's splendid opportunities for any man. Sent free by **State Board of Immigration, Dept. S, State Capitol, St. Paul, Minn.**

All About Texas

Oklahoma, Arkansas, Louisiana, New Mexico. Homes for the homeless, prosperity for the industrious. The home builders' guide. Send stamp for sample copy.
FARM AND RANCH, Dallas, Texas.

SAN JOSE, the "Garden City" of CALIFORNIA

in the heart of the famous Santa Clara Valley. The educational, horticultural, scenic and home center of California. Delightful all-year-round climate. Send for free illustrated booklet C. Address,
Chamber of Commerce, San Jose, California

CALIFORNIA Irrigated Fruit, Alfalfa Farms. Easy payments. Special offer. New Gov't aided canal. Catalog free. Wooster, 702 Market St., San Francisco

TO CURIO SEEKERS A rare specimen of Lava Rock will be sent you by sending 10c in coin or stamps to GEO. BLACK, Box 415, Hillyard, Wash.

The Difference

BY HILDA RICHMOND

JUST across the road from each other stand two comfortable country homes, and each one shelters a family of six. The two men are in about the same circumstances financially, and their wives are cousins, but when those facts are stated it may be said the similarity ends. True, there are father, mother and four children in each house, and each house is comfortably furnished, but such a difference in the life within! It is a pleasure to visit in one home, but exceedingly depressing to go to the other.

In the doleful home the day begins wrong by the family getting up late and having a hurry-skurry of a breakfast. "We must get up earlier!" the master of the house declares. "Other men are in the field at work before I have my breakfast." Whereupon the untidy mistress sheds a few tears, and begins to explain that it is the fault of the fuel or the stove or anything but carelessness that delays the morning meal. Before the breakfast is half eaten the children appear wanting help from "mama" to dress and wash, and the mistress of the house deserts the table to look up lost garments and repair damages. Amid scolding and fretting the children are given their breakfast and made ready for school, and the irritated mother begins her belated morning work.

As she works she entertains the chance guest with such statements as these: "When the children grow up I hope to have some system to my housework, but it is impossible now. Sometimes I feel just like giving up and going to bed with all this drudgery before me. Of course, I love my children, but they are a great care to me. Now Mary rules her home with a rod of iron and makes every child toe the mark, but I would rather put up with some inconveniences than to have a cast-iron system. I want my children always to remember that they had a good mother and a happy home."

Mary is the cousin who lives just across the road, and a visit to her home is a revelation.

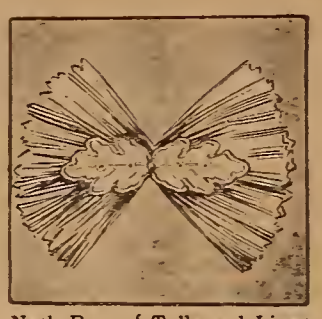
In Mary's home the alarm clock calls the master and mistress quite early in summer and later in winter, but always in ample time to have a substantial breakfast of well-cooked food. The fire is laid, and a match applied sends up a cheery blaze at once. While the husband and father spends half an hour in the barn feeding the work horses, the meat previously sliced, the cereal soaked, the eggs laid out ready for frying, or any of the other articles made ready the night before. are cooked to a turn, and the coffee pot is pushed forward to the hottest place on the stove.

The children remain in bed as late as possible, because their mother thinks they need more sleep than adults, but at a regular hour every morning they are called, and rise at once. The older children dress themselves and help the younger ones, and then they troop down for inspection. The mother washes all hands, faces, necks and ears carefully, and combs the hair, but the dressing is done by the children. Breakfast is served to them, and very soon they start off happily to school. Each one has some household duty to perform, and the bedding is always thrown back over the foot of the bed, to allow fresh air to purify it before the little ones come down. Of course, the older children perform this task.

If the guest speaks of the order and neatness of the home the mother is sure to say, with enthusiasm, "The children are such a help to me. They wait upon themselves and each other and really do many things about the house to lighten my work. Do you really think they are orderly? I am so glad, for I think an untrained child has a very hard time of it in the home and a harder time when thrust out among strangers."

Is it any wonder people speak in highest terms of Mary and her family? And is it any wonder guests love to accept her hospitality? She is so sensible and so cheery and so helpful that her very presence is a benediction. One looks in vain for the "rod of iron" her cousin deplores, and the cast-iron system seems to be working out very well with the healthy, happy children. If it is evidence of a cast-iron system that shows forth in hanging up garments, putting away playthings when through playing, getting up and going to bed at regular hours, then it is a pity more homes are not so governed. The contrast between the two homes is so apparent that people cannot help speaking of it. Though the narrow country road is the only thing that separates the two homes, yet they are thousands of miles apart as regards real living. And it is the general opinion of the neighborhood that if anybody's children remember that they had a good mother and a happy home, it will be most likely Mary's well-trained flock. At least, all signs point in that direction.

Miss Gould's Fashion Page



Neck Bow of Tulle and Linen

A NECK bow is a finishing touch of the greatest importance. It has a magic way all its own of making a plain waist appear smart and new. Don't let it attract the eye too strongly. It can be fashionable, and yet not conspicuous. Don't ignore altogether the color of your eyes when selecting it. The neck bow and the wearer's eyes should help each other to look their best; each should bring out the best points of the other. Don't allow yourself to wear an old-fashioned collar and necktie. They are little things, to be sure, and yet they can give you, arrayed in your smartest gown, a behind-the-times appearance. So much for the power of little things in dress.

There is such a variety of neck bows stamped the fashion this spring that the clever woman will have little trouble in making up at least some of them for herself. There is no need of mentioning it broadcast, but one's bag of odds and ends will be found a great big help when you start to make your neckwear. But, of course, there is always the finishing touch to bring it up to date and give it style.

A very new idea is a little neck bow of tulle and linen—a rather odd combination, but a smart one. Two full ends of tulle form the bow, to which are fastened small, leaf-shaped pieces of white linen embroidered in colored silk.

The touch of black is an important note in many of the newest gowns; very frequently it appears only in the girdle, or perhaps the necktie. A most unusual girdle worn with a gray-green costume is of folds of black satin, made so that it is much higher at the right side than at the left, measuring six inches at the right side and graduating to only two inches at the left, where it is finished with a cluster of satin ends in graduated lengths, each one finished with a black silk fringe tassel.

Very narrow black satin neckties are worn encircling the neck at the bottom of high lace collars, and from this narrow satin neckband odd-shaped little black satin bows dangle, which consist of a rather long and narrow knot, from which little loops spread out. Sewed to the knot are tiny colored satin buttons sometimes in Nattier blue, purple or cerise.



No. 1138—Lingerie Waist (With or Without Yoke)

Sizes 32, 34, 36 and 38 inch bust measures.

TROUSSEAU gowns are lovelier than ever, but as they have increased in beauty, they have lessened in number. Very few brides of to-day, no matter how fashionable they may be, order a trousseau consisting of a great number of costumes.

The bridal princess gown here illustrated is a style which will be in fashion for a long time to come. One can wear it as long as the material lasts by merely changing the sleeves to meet the requirements of the prevailing fashion.



No. 1132—Princess Wedding Gown

Sizes 32, 34, 36, 38 and 40 inch bust measures.

TO TALK of the summer fashions means to speak first of the fashionable figure, for one is absolutely dependent upon the other for its chic and charm. Long lines and slenderness are the characteristics of the new silhouette. Of course, we like to hear about the figure that Fashion says we must all have this summer, maid and matron alike. We all want to know what we should be, so far as the new modes are concerned, but alas for those of us whose figure refuses to be pliable and simply won't melt away where it should.

The new corset is a help in molding the new figure, and the latest combination underwear designs do away with many unnecessary bands and fulness, but, after all, plenty of systematic exercise helps more than both.

Simplicity is the keynote of the new fashions, but it is the simplicity that is artistic and essentially feminine rather than the severe mannish type.

There are two distinct types of dress this summer, both emphasizing the straight up-and-down effect. One is the tailored coat suit showing in many instances a cutaway coat, which gives the hipless effect, and a skirt comparatively narrow at the bottom—that is, it is made without the sudden flare that the tailored skirt used to have.

The other type of dress is the cut-in-one gown, and great will be its favor throughout the summer. In the form of the new princess jumper this cut-in-one dress is a most practical gown to own. It can fasten in the front quite as easily as the back, and it is a model equally good for silk or linen.

This style of dress is always cut out at the neck, and is generally sleeveless, to show the guimpe, or trimmed just sufficiently over the shoulders to give a modified large armhole effect. Or it may be made, as a number of the imported models are, so that it has much the effect of a polonaise cut out at the neck, but having a sleeve which is cut in one with the bodice.

Now, of course, there are many variations of these two basic ideas in dress, but whatever the fashionable model this summer, it is sure to be simple in design, lacking entirely any exaggeration in form.

Perhaps this idea is better shown in the sleeve than anywhere else, which has diminished in a pronounced way in size.



A Quaint Cameo Bracelet

SINCE semi-precious stones have become so extremely fashionable, women depend a great deal on jewelry as the finishing touch to their costume. Of course, we all know that an abundance of cheap jewelry is in the worst possible taste, and no woman of refinement would so bedeck herself. But to wear a necklet of a fine gold or platinum chain, artistic and unusual, finished with a flower-shaped pendant made of baroque pearls and white or green metal, set with tiny diamonds, is in perfect taste if it is in harmony with the type of gown with which it is worn.

Bracelets can also give a very artistic finishing touch to a costume. Old-fashioned designs for bracelets are much sought, and a cameo mounted on a gold band is one of the favored new ideas. An exquisite design for a bracelet shows a large pink-and-white cameo having the effect of being held in place by bunches of pearl grapes.

Flower pins studded with colored stones are much used at present, for this spring the artificial flower is worn with street costumes, and the pin to hold it has become quite a necessity.

Flowered designs seem especially to appeal to the dainty woman. She is using white elastic, delicately flowered, as a belt, and the filmy scarf, which is such an indispensable accessory to her toilette, is almost invariably scattered with the loveliest of indistinct blossoms.

The new belts, by the way, are wide—sometimes seven inches, the narrowest being three inches—and the flowered elastic is quite the proper thing for their fashioning. The buckles are big, and many of them extremely novel.

Some are of flowered china, so perishable that it almost seems an extravagance to look at them; others are of silver gilt, thickly studded with semi-precious stones, and the most novel of all are the animal and bird buckles.



No. 973—Waist With Tab Yoke

Sizes 34, 36, 38 and 40 inch bust measures.

No. 974—Kilted Skirt With Panel Front

Sizes 24, 26, 28 and 30 inch waist measures.

Copyright, 1908, by The Crowell Publishing Company

Practical Patterns for the Home Dressmaker

MADISON SQUARE PATTERNS

The new catalogue of Madison Square Patterns is now ready. It is like a big, illustrated fashion magazine, and is well worth having. We will send it upon receipt of four cents in stamps. Order patterns and catalogue from the Pattern Department, Farm and Fireside, 11 East 24th Street, New York City.

Full descriptions and directions are sent with the pattern as to the number of yards of material required, the number and the names of the different pieces in the pattern, how to cut and fit and put the garment together, and also a picture of the garment as a model to go by.

ALL PATTERNS ARE 10 CENTS EACH

When ordering be sure to comply with the following directions: For ladies' waists, give bust measure in inches; for skirt pattern, give waist measure in inches; for misses and children, give age. To get bust and breast measures, put a tape measure all the way around the body, over the dress, close under the arms. Order patterns by their numbers. Satisfaction guaranteed or money refunded.

OUR LATEST LIBERAL OFFER

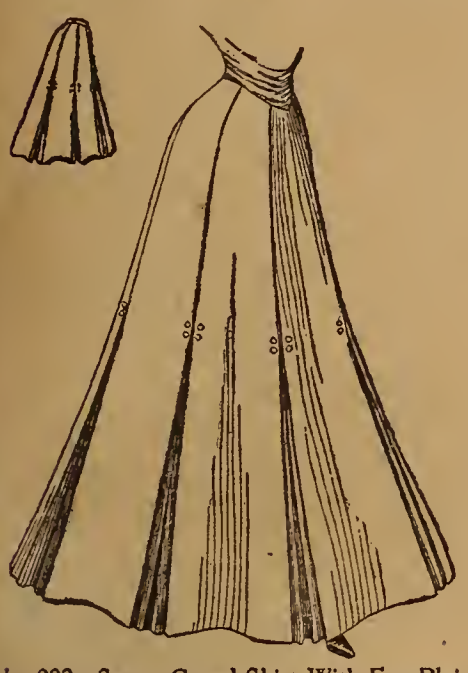
We will give any two of these patterns for sending two yearly subscriptions to Farm and Fireside at the regular price of 25 cents each. Your own subscription may be one of the two. When ordering, write your name and address distinctly. We will send Farm and Fireside one year, new or renewal, and any one pattern for only 30 cents.



No. 928—Lingerie Princess Gown
Sizes 34, 36, 38 and 40 inch bust measures.



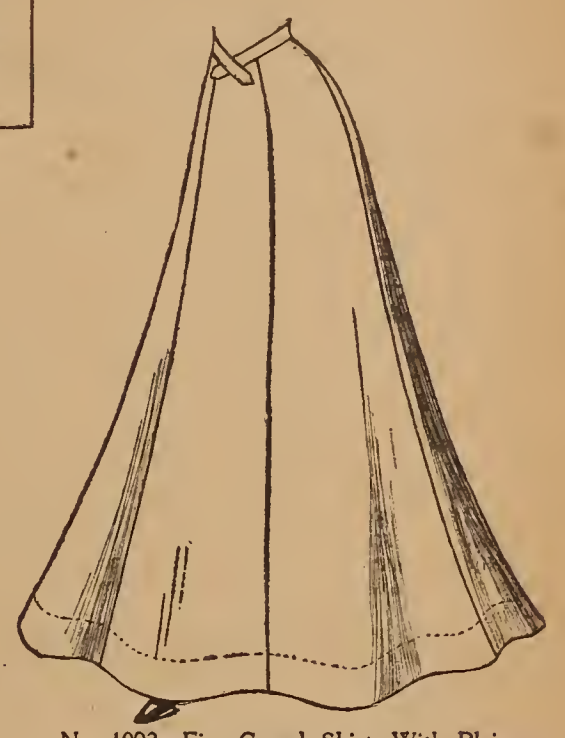
No. 705—Dressing Sacque With Fitted Back
Sizes 34, 36, 38 and 40 inch bust measures.



No. 802—Seven-Gored Skirt With Fan Plaits
Sizes 24, 26, 28 and 30 inch waist measures.



No. 1143—Combination Corset Cover and Petticoat
Sizes 34, 36, 38 and 40 inch bust measures.



No. 1092—Five-Gored Skirt With Plain or Plaited Back
Sizes 22, 24, 26, 28, 30, 32 and 34 inch waist measures.

One of the good features of this stylish five-gored skirt is that the pattern provides for a belt, which should be made of the same material as the skirt. In making the belt, use one thickness of tailor's canvas for an interlining, and cover it with the material. This is a good model for a linen, gingham or chambray skirt.



No. 854—Boy's Blouse Waist
Sizes 4, 6, 8 and 10 years.



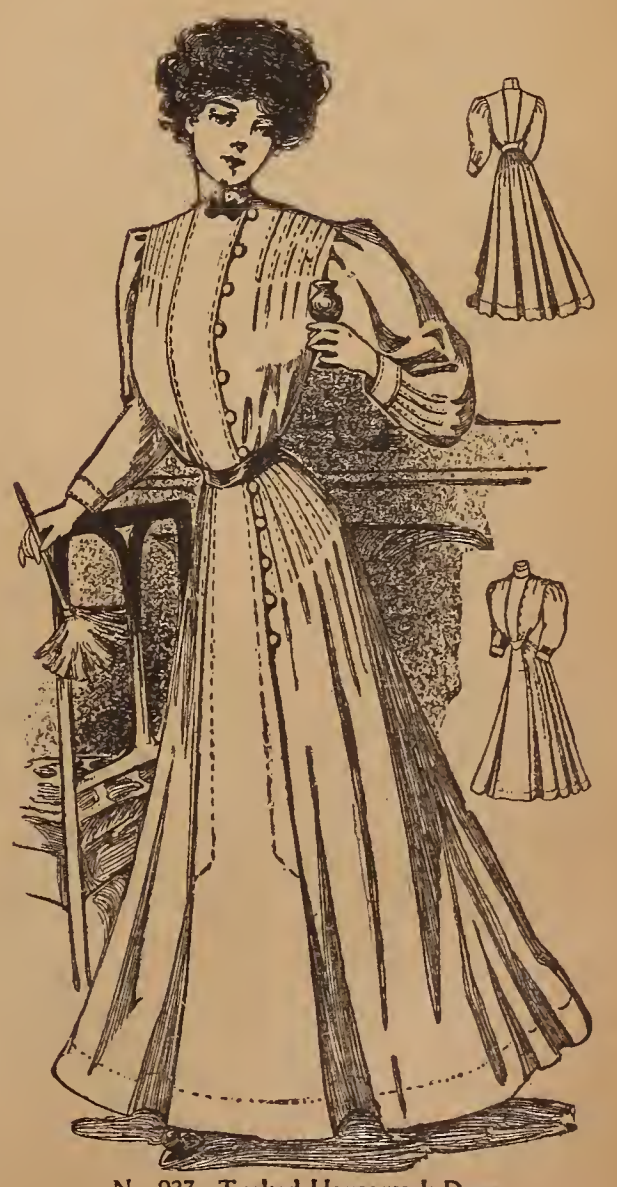
No. 770—Boy's Overalls
Sizes 2, 4, 6 and 8 years.



No. 686—Child's Rompers
Sizes 1, 2 and 4 years.



No. 1001—Misses' Tucked Waist With Applied Yoke
Sizes 12, 14 and 16 years.



No. 927—Tucked Housework Dress
Sizes 34, 36, 38 and 40 inch bust measures.

Rider Agents Wanted



in each town to ride and exhibit sample 1908 model. *Write for Special Offer.*
Finest Guaranteed **1908 Models $10 to $27**
with Coaster-Brakes and Puncture-Proof tires.
1906 & 1907 Models **$7 to $12**
all of best makes
500 Second-Hand Wheels
All makes and models, **$3 to $8**
good as new.....
Great Factory Clearing Sale.
We ***Ship On Approval*** *without a cent deposit, pay the freight* and allow
TEN DAYS' FREE TRIAL.
Tires, coaster-brakes, parts, repairs and sundries, half usual prices. **Do not** buy till you get our catalogs and offer. *Write now.*
MEAD CYCLE CO., Dept. T83 Chicago



MAKE YOUR BICYCLE INTO A MOTORCYCLE

at small cost by attaching the successful Erie outfit. This includes all parts to make a powerful up-to-date machine that climbs steep hills. Sample sold at cost to introduce it. Send 4 cents in stamps for new catalog No. 8.
Motorcycle Equipment Co., Hammondsport, N. Y.

Post Cards Given

Cut out this ad and we will send you a set of 3 most beautiful post cards you ever saw. Send 2-ct. stamps for postage. Full set of 10 for 10 cents; 3 full sets 25 cents. Everyone answering this ad immediately will also receive our splendid farm magazine 3 months on trial free. We make this great offer to introduce our big farm paper which already has more than a half million readers. Address at once
Valley Farmer Post Card Dept., 33, Topeka, Kansas.

25 HANDSOME POST CARDS FOR 10 CTS.
FINEST FLOWER CARDS
Beautiful colored cards of Roses, Violets, Daisies, Tulips, Lilies, etc., also Art and Novelty Cards, worth 2 to 5c each. All sent prepaid with big illustrated catalog for only 10 cents. ELLIS ART CO., Dept. 393, 521 Lawndale Ave., CHICAGO

The **UNIVERSAL MAGAZINE** the most interesting. Send 25 cents for one year's subscription and 12 beautiful pictures. Address. **HALE PUBLISHING CO., 5530 Vista Avenue, St. Louis, Mo.**

Catalogue of
Embroidery Designs
By Evelyn Parsons

This catalogue comprises thirty-six illustrated pages with designs of every variety of correct embroidery, including stocks, belts, collars, cuffs, waists, hats, parasols, lingerie, baby's layettes and dozens of other things—by far the finest designs for embroidery we have ever issued.

Sent to any reader of FARM AND FIRESIDE on receipt of three 2-cent stamps. Address

Embroidery Department
Farm and Fireside, 11 East 24th Street
New York City

Prize Winners for April

In the Merchandise Payment Department

The following are the **Cash Prize** winners for the month of April. They are the sixty-five FARM AND FIRESIDE representatives who sent us the most subscriptions during that month. Notice how few points it took to get a prize—even the big prizes! And all these **Cash Prizes** are entirely **in addition** to superb Merchandise Payments.

No.	Name	Points	Amt.
1	Mrs. Catherine Gearhart, Illinois	35	$25.00
2	E. K. Renck, California	30	10.00
3	Mrs. Ambrose Powell, North Carolina	30	10.00
4	Pearl Vivrett, Kentucky	30	10.00
5	Mrs. E. J. Newton, Maryland	28	6.00
6	Mrs. Bertha Kelly, New York	26	6.00
7	Freeman Warner, West Virginia	25	2.00
8	Mrs. Dora McCullough, Tennessee	25	2.00
9	Elder Smith, Pennsylvania	25	2.00
10	H. O. Rodabangh, Pennsylvania	25	2.00
11	Jas. McCormick, Ohio	25	2.00
12	John B. Waterhouse, New Jersey	25	2.00
13	Ada A. Smeak, Maryland	25	2.00
14	Mrs. Anna Kendrick, Louisiana	25	2.00
15	Loretta D. Stigall, Kentucky	25	2.00
16	Ollie Fraze, Indiana	25	2.00
17	Luna Richey, Illinois	25	2.00
18	John Minter, Illinois	24	2.00
19	Helen A. Washburn, Missouri	19	2.00
20	Virgil Etchison, Indiana	18	2.00
21	Mrs. Mary Weaver, Indiana	16	2.00
22	W. H. Reece, West Virginia	15	2.00
23	Mrs. L. A. Yeager, Kansas	15	2.00
24	Mrs. D. C. Hamilton, Illinois	14	2.00
25	Mrs. Geo. Babcock, Michigan	14	2.00
26	Rubie Moore, North Carolina	14	2.00
27	Mrs. J. H. Robson, Ohio	14	2.00
28	Elsie Sayre, Washington	14	2.00
29	B. D. Akins, Alabama	13	1.25
30	R. O. Greene, Arizona	13	1.25
31	W. R. Crain, Illinois	13	1.25
32	Harry L. Moore, Illinois	13	1.25
33	J. S. Wilkinson, Maine	13	1.25
34	Marie Lafferty, Pennsylvania	13	1.25
35	Henry Bolhouse, South Dakota	13	1.25
36	Wm. B. Scringeour, Texas	13	1.25
37	Bertha Reuck, Illinois	12½	1.00
38	R. L. Vaughn, Tennessee	12	1.00
39	W. B. Cannon, Tennessee	12	1.00
40	Pearl Dalton, South Carolina	12	1.00
41	Ethel Woods, North Carolina	12	1.00
42	Joseph Stones, New Jersey	12	1.00
43	Mrs. P. McMillan, Mississippi	12	1.00
44	Howard Sherman, Massachusetts	12	1.00
45	J. E. Roberts, Kansas	12	1.00
46	Leslie F. Corf, Connecticut	12	1.00
47	Freda M. Langdon, California	12	1.00
48	Lena Mathias, Indiana	11	1.00
49	E. Irving Harkins, Maryland	11	1.00
50	Honore G. Davis, Nebraska	11	1.00
51	J. Harvey Brackin, Delaware	10	1.00
52	Mrs. Richard Lewis, Illinois	10	1.00
53	Mrs. Matt Fults, Indiana	10	1.00
54	Percy Stolting, Iowa	10	1.00
55	Lottie Gentzler, Missouri	10	1.00
56	T. A. Edminson, Ohio	10	1.00
57	Howard E. Euler, Ohio	10	1.00
58	Odell Piersoll, Ohio	10	1.00
59	Mrs. Emily Stuart, California	10	1.00
60	Mrs. Susan E. Hardin, Illinois	9	1.00
61	Ralph Black, Pennsylvania	9	1.00
62	Leona M. Elliott, Ohio	9	1.00
63	Roy Moore, New York	9	1.00
64	Mrs. Hattie E. Ferris, New York	8	1.00
65	Jas. H. Sutton, Indiana	9	1.00

If you don't know all about our new Merchandise Payment Department and the Cash Prizes, write for our big, illustrated catalogue and full particulars. They will be sent immediately without cost to you.
MERCHANDISE PAYMENT DEPARTMENT
Farm and Fireside **Springfield, Ohio**



OUR YOUNG FOLKS



A Little Tenderfoot

BY IZOLA L. FORRESTER

THINGS had been rather slow at the Crossbar Ranch until the arrival of Winona from Philadelphia. The two Nelson boys, Dick and Rob, had been home since June on their vacation, but somehow, after nearly a year's absence at school, the little old ranch on the Sweetbrier Creek did seem tame.

"If it was a big booming cattle outfit, I wouldn't mind," Dick had said gloomily. "But just sheep. How can anything jolly ever happen on a ranch where there's only just sheep?"

"Remember how you used to tell the rest of the boys all about how you was pop's best cowboy?" teased Rob lazily. "That was a nice bronco you told about breaking, wasn't it, that night in Tad Gardener's room? That was a fine one. Where did you read about that, Dick?"

"Oh, let up," said Dick crossly. "When you're East, and everybody knows you live on a ranch way out West, they expect to have you tell things like that."

"Wait till Winona comes and finds you out," laughed Rob.

"She's too little to catch on," Dick retorted loftily. "She's only thirteen, and a girl. We can make it seem awfully wild to her."

They did, too. Winona had not been on the ranch two days before she expected to see an Indian bob up serenely at any time and wave a tomahawk at her.

"Wolves and bears, too, even in summer?" she echoed after one of Dick's best stories.

"Even in summer? Well, I rather guess there are. You ought to see the silver tip that came down and stole one of pop's sheep every night for two weeks."

Winona believed it, and at dinner that day she turned to Yon, the big blond Swede herder, who was standing in the doorway of the ranch house, and asked, "Are there any silver tips around now?"

"Ay ain't bane seen one lately," averred Yon earnestly.

"Don't you believe any ghost stories about silver tips, honey girl," Mrs. Nelson said. "One does ramble down from Montana once in a while, but mighty seldom, do they, father?"

"Silver tips are scarce as hen's teeth," Uncle Ben assured her. "Dick's showing off, girlie, that's all."

"Well, I wanted to be sure," said Winona, "because the boys said they were going to take me blackberrying and show me a really truly bear cave."

"Oh, I'll take care of you," Dick announced, and Winona felt reassured, but Uncle Ben laughed at them from his place at the head of the table.

Winona's belief remained constant, however, and after dinner the three cousins started after blackberries, Dick leading.

He was prepared for the worst. His father's old shotgun, which had not killed anything larger than a timber wolf in years, was slung over his shoulder in an easy, careless way just to show Winona what a huntsman he really was.

"It gets very wild a few miles west of our valley," he told her seriously as they walked along the little sheep path up over the buttes.

"What would you do if you saw a real live bear coming right straight at you?" said Winona.

"Just shoot it, or hit it over the head with a club," said Dick carelessly.

Rob stopped his whistling and turned back to laugh, but he did not say a word. If Winona was such a little tenderfoot greeny as to swallow every old thing Dick told her, she deserved to get fooled. He would just like to see Dick in front of a bear. He wouldn't be saying any prayers for the bear. They would all be for Dick. The blackberries grew thickest up in the hill pastures, and the children rambled on, still in sight of the little low log ranch house, and the valley with its grazing sheep, but more than a mile away from where Yon sat like a statue on Black Jack, the big black pony, guarding the sheep.

"Here's the best place," cried Dick at last. "And the bear's cave is right around on the other side of those rocks. I'll show it to you."

"Here it is, Winona," shouted Dick, as he stood finally on a jagged point where he could look down into the cave. "Guess I'll fire one shot down there to be sure we're safe."

He leveled the old gun, and Winona set her pail of berries down on the ground, so she could put her finger tips in her ears, and Dick pulled the trigger.

Two amazing things happened. First of all, the old gun kicked Dick in the shoulder as it exploded, and the bold trapper tumbled in a heap. Then leisurely, with an air of curiosity and interest, there scrambled out of the rock cave a bear. Winona knew it was a bear the minute she saw it. It was short and fat and brown, and it had a streak of silvery gray hair running from its stubby tail right up over its back and head, even to the tip of its pointed nose, so she knew it was a silver tip. It stood still when it reached the upper ground, and stared inquisitively at the intruders, wagging its head a little from side to side, and looking like a big, fat, awkward puppy dog.

Winona stood perfectly still, staring with all her might, but Rob had seen the bear, too, and a smothered, long-drawn-out "Yow-w-w-w-wl" came from the foot of the rocks as he started pell-mell down the winding path.

"Oh, Dick, shoot it!" cried Winona, reaching for her pail of berries. "Shoot quick, Dick."

But Dick the Trapper was gone. The old gun lay on the ground, and down the other side of the rocks crawled Dick, looking for a place to hide from the bear. So only the two were left—Winona and the silver tip—staring at each other, and not more than five yards apart. If she only had a bag of peanuts, the thought flashed through Winona's mind. That was what kept the park bears happy and good, just peanuts. She had often thrown them down into the den, and watched the lazy, fat fellows stir themselves to sit up and catch them in their mouths. If she only had something to give this one, she knew it would keep him good. But there wasn't even one peanut on the whole ranch, and even while she was wondering what she should do, the bear started toward her, inquiringly, angrily, with its brown nose pointed up in the air, and before she had time to turn and run, it had reared up on its hind legs and reached toward her.

Then Winona did the only thing she could think of. She just dipped her hand in the pail of blackberries, and threw some at the gaping red mouth. It snapped to catch them and the bear dropped on its four legs again, and started to nose after the berries it had dropped. Winona threw another handful, and still another, and while the silver tip munched hungrily at the sweet, ripe fruit, she set the whole pailful down on the ground, and backed cautiously away down the path.

There was no need for caution, though, for the silver tip was too busy to notice a little tenderfoot. It had its long nose deep in the pail, and tipped it over on the ground, one paw holding it still, while it ate the berries, and before she knew it, she was behind the rocks, out of its reach.

Rob reached home first, because he was the fastest runner, and Yon declared he never saw a boy run a mile so quickly, over rocks, briers and brooks, as Rob did that day. About a quarter of a mile behind him came Dick, minus hat and gun, his face white as a girl's under his freckles.

"It's a bear, Yon!" he shouted as soon as Black Jack came up with him. "It's eating Winona up."

"Den Ay bane pretty mad," said Yon, when he told Uncle Ben about it afterward. "Dose two boys, dey run like muskrat. Dey don't have any more fight in dem dan fool bullfrog. Dey yust yell an' yump, an' let dat bear chomp up dat one leetle girl."

So while the boys raced as fast as they could for the ranch house, Black Jack and his rider made for the rocky hillside, just in time to see the bright pink of Winona's dress as she came down the path. Yon swung off the black pony, and ran up the rocks past her, but he, too, came down again quickly, and lifting Winona to the saddle in front of him, he turned Black Jack on a run toward home.

"Where's my gun?" called Uncle Ben, as Yon told the story.

Dick flushed and gasped. "It—it's up on the rocks where the bear is. I left it there, pop," he said.

"He was going to kill the bear, but he forgot, Uncle Ben," Winona explained earnestly, and Uncle Ben looked first at Dick's shamed hot face, and then at the little tenderfoot who had vanquished a silver tip with a pail of blackberries.

"Ay guess we get him some time," said Yon, but they never did. When he and Uncle Ben reached the cave, it was empty, and so was the berry pail. Only the bear tracks showed where the silver tip had gone up into the mountains after it had finished its feast. Winona felt a little glad over its escape, too, because it had been such a roly-poly, jolly looking bear she hated to have it hunted and killed.

Cousin Sally's Letter

DEAR BOYS AND GIRLS:—Since my first letter to you in FARM AND FIRESIDE my desk has been piled high with letters from you all about your gardens—and such delightful letters! They were brimful of enthusiasm and interest, and I thank you ever and ever so much for them.

I have been wondering lately, as the time draws near for the schools to close for the summer vacations, what all my cousins are going to do with the long playtime. Is it going to be all play for some of you? I do hope not. Now don't begin to think that Cousin Sally would have you work hard all summer. That would be quite as bad as wishing that you would do nothing but play. But surely there are a great many little things about the farm that you can find time from your play to do—things that will lighten the work and worry of the father and mother. And besides, if you would only realize it, all the things you learn to do now are going to be just so much help to you as you grow older and plan to work for yourselves.

So much for my little sermon. Now I want to tell you how eagerly I shall wait for letters from you telling me about your summer plans. Somehow I want to feel that I am one of you, sharing all your work and fun. But of course I can't be unless you write me all about what you are doing. Will you?

By the way, how do you like the story on our page this number? Is it the kind most of you like to read? I shall be so glad if it is; but if it isn't, tell me, and perhaps we can try another kind for next time. Affectionately yours,

COUSIN SALLY.



My Dog

This cunning little puppy
Is just two months old to-day,
And although he looks quite sober,
He is very fond of play.

Once I dressed him like a baby,
I thought he wouldn't mind,
But he looked at me as if to say,
"Why are you so unkind?"

He knows when he's been naughty.
And hangs his little head
And looks so truly sorry
I can't send him to bed.

Things Worth Knowing

Inventors and Inventions

THE lot of the inventor and the fate of new inventions have always been peculiarly hard. Did it ever occur to you that the ridicule many of us are heaping on the men who are trying to perfect the flying machine is the same sort of ridicule our grandparents heaped upon the men who proposed running steamboats and trains? Our own parents, perhaps, held in derision the thought of automobiles. But look now at the number of those same despised vehicles that are in constant use for pleasure and work both in the country and in town. Even the trolley cars, lines of which now intersect the whole country, were objected to on the score that they would kill more people than were slain in wars, and that they were foolish anyway. How wonderful, then, is the persistence of the men who not only have to solve the intricate problems that are hammering in their heads, but are also obliged to combat the hostility and unbelief of a skeptical public!

The whole history of the progress of the world is punctuated by instances which go to show that all great inventions have been literally forced upon mankind. When a few energetic men proposed running steamboats across the ocean, a prominent London scientist solemnly assured them that the coal supply necessary for a voyage across the ocean would sink the ship! Later, after electric arc lights had been in use for some time, and thinkers were trying to devise a way to use electricity for ordinary lighting, a scientific commission which studied the subject decided that any hope of using electricity in small lights for domestic purposes was but a "dream of visionaries and enthusiasts." Let us all be thankful that inventors are enthusiasts, else we might still be in the Dark Ages, plowing with wooden plowshares and spinning and weaving our own cloth.

And it was not so very long ago that people were not content with simply ridiculing inventors. They used to destroy the inventions. When, in 1633, the first sawmill was set up in England, it was immediately torn down by the hostile hand sawyers, and its owners were forced to flee the country. The second sawmill, which was not set up until a hundred years later, was also destroyed. And, strange as it may seem to us in this day, the introduction of the stocking loom in Nottingham and the sewing machine in New York led to riots.

◈

Daily News in Ancient Rome

NEWSPAPERS are not as modern an invention as one might think. In fact, we know of one journal which was published over two thousand years ago. It is true that it appeared only once a year, but apparently it was popular, since, in order to please the public, it was afterward changed into a daily.

The original name of this periodical, the first known to history, was "Annales Maximi." It was published in Rome, and its editor was the "pontifex maximus," the high priest of the city. When it was turned into a daily the name was changed to "Acta Populi Romani Diurna."

As printing was then a thing undreamed of, the paper was published in the form of tablets hung up in public places, or was written in red chalk on the walls of houses. No attempt was made to build up a large circulation, nor was vivid writing then in great demand. Here is a translation of a part of one issue, which appeared one hundred and sixty-eight years before the birth of Christ:

"Consul Sicinius was acting judge to-day. There was a heavy thunder storm, and the lightning split an oak at the foot of the hills of Veli. In a hostelry, at the foot of the Hill of Janus, there was a fight, in which the landlord was badly wounded.

"Sicinius punished some butchers, on account of their selling meat which had not been inspected. The money thus paid was used to erect a chapel to the goddess Laverna.

"The broker Ausidius fled from town to-day, taking money with him belonging to other people. He was caught, and had to refund the money.

"The brigand Demiphon, who was captured by Officer Nerva, was crucified."—The Live Wire.

◈

Corn at Ten Dollars an Ear

TEN dollars seems a pretty big price to pay for just one ear of corn, but out in Iowa they raise corn which brings even more than that. It is not uncommon for a man out there to raise corn which he cannot afford to own.

Improbable as this sounds, it is true, and the explanation is that prize ears of seed corn become the property of the agricultural courses where they are exhibited. They are then sold at auction, and the man who raised them does not always feel that he can afford to bid them in.

That was precisely what happened to an Iowa farmer named McCulloch not long ago. He entered a good many ears in the competition held at Marshalltown under the management of the Iowa State Agricultural College. Over three thousand ears were entered, and one of McCulloch's won first prize.

The prize was a one-hundred-and-fifty-dollar water-supply system, so the farmer probably felt that he could afford to bid in the prize ear for eleven dollars and fifty cents. But when it came to buying back eighty other ears which he had entered he had to let them go to others.

Those eighty ears brought two hundred and four dollars and fifty cents, so that, provided he could have sold the eighty-one ears of corn for what they actually brought, two hundred and sixteen dollars, he could have bought this water-supply system and had sixty-six dollars left.

G. F. Howard won one hundred dollars with a single ear of corn in the same competition, and paid ten dollars for the ear to get it back. For ten other ears which he entered he had to bid up to forty-one dollars and seventy-five cents for the lot to get them.

Thirteen bushels of the corn that was entered brought an average of thirty-nine dollars and fifty cents a bushel. Iowa farmers have awakened to the importance of improving their crops by improving their seed. The consequence is that Iowa raises the finest corn in the country, and is constantly improving it in quality and quantity to the acre.—Sunday Sun.

◈

Perfecting a Crown Jewel

THE Cullinan diamond, which weighs a pound and a half, is now being prepared in Amsterdam to adorn the King of England's crown. The task of cutting and polishing this jewel is especially difficult, because it contains several flaws which must be removed with the least possible detriment to the stone. In order to be able to plan the work accurately, the jewelers made an exact model of the diamond and treated it in the same way as the real diamond will be treated.

The jewel is to be fastened by means of cement to a long stick, and is to be cut by a sharp-cutting diamond also embedded in a cemented stick. Each incision will be about three fourths of an inch, and when the desired depth has been reached the diamond will be placed in a lead socket and a knife blade of the finest steel will be inserted in the slit. A blow with a heavy steel stick will then cut off the flaw.

After all the flaws have been removed, the diamond will be handed to an expert polisher, who, with three assistants locked in a special room, will work every day from seven in the morning until nine at night for a whole year to put the finishing touches on this jewel, which is worth about five million dollars.

Remarkable precautions to prevent theft are taken by the jewelers who have the work in charge. Every night the stone is conveyed by the manager, accompanied by ten fully armed men, to a strong room built of iron and cement walls three fourths of an inch thick, inside of which are several secret sliding panels. Behind one of these, with its nine locks completely hidden from view, lies a tiny safe, in which the diamond is placed.

◈

China's Canals

EVERY one has heard of the famous canals of Holland, but how many know that there is a far more marvelous canal system in China? In fact, no country in the world has so many navigable rivers and canals as China. The Great Canal, which is fifty feet wide, passes through forty-one large cities, and has thousands of bridges, runs north and south from Canton to the extremity of the empire. By this great waterway the wares of all nations are carried to Pekin, a distance of eight hundred and twenty-five miles. The importance of these canals to China's commerce is so great that they are run through every kind of property, even the gardens of the emperor. The innumerable bridges which cross the canals are made of three or four arches, of which the middle one is high enough for vessels to pass under with masts standing. The Grand Canal of the southern provinces, which is the trunk of the system, is one thousand feet in width; its sides are built of massive blocks of gray marble and granite, and its waters flow at a rate of three miles an hour toward the Yellow River.

◈

The Man Who Was Not Worthy

[CONTINUED FROM PAGE 13]

terror that told me something of which I had never dreamed. The make-believer had become real to her. She loved the boy. My heart throbbed with pity for her.

"Leave for Samar in an hour," she repeated. "Leave for Samar in an hour. Why?"

"This sleep will drive away the fever," the surgeon replied. "When he awakens from it he will know. We cannot make him think you are the woman he loves any longer. If you vanish, he will think that the delirium deceived him—that you were never here."

The girl heard him in silence, but I marveled at the soft flush that flooded her cheeks and the star-like brightness of her eyes.

"But I am the woman he loves," she whispered softly. "It was because I loved him that I followed him here—and found him only just in time."

◈

At the End of the Day

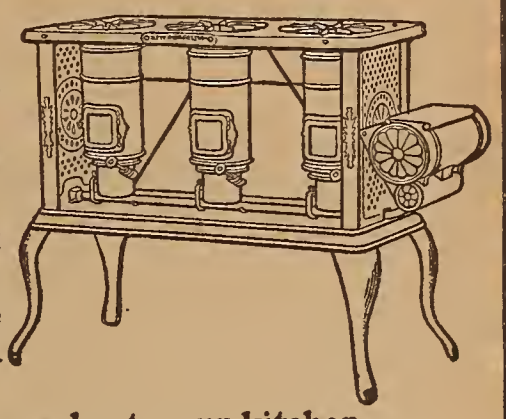
The clerk has laid his pen aside;
  His duties for the day are past.
His talents have been well applied,
  The rest he craved is his at last;
He joins the pushing, rushing throng,
  And goes to others waiting gladly.
The weary master lingers long,
  And bends o'er stubborn figures sadly.

The clerk is leaving care behind:
  Out where the town is clean and fair
Two little arms will soon be twined
  Around his neck, and some one there
Will stand beside a little gate
  And watch their baby run to meet him.
The master will turn homeward late,
  And find no shouting child to greet him.

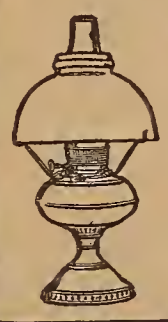
The clerk sometimes permits a cloud
  To cross his brow—sometimes believes
That he, in truth, should be allowed
  More rich rewards than he receives—
But if he only knew or guessed
  He might regard with honest pity
One who is very hardly pressed
  Within the unrelenting city.

—S. Kiser in Chicago Record-Herald.

Use A
NEW PERFECTION
Wick Blue Flame Oil Cook-Stove



Because it's clean.
Because it's economical.
Because it saves time.
Because it gives best cooking results.
Because its flame can be regulated instantly.
Because it will not overheat your kitchen.
Because it is better than the coal or wood stove.
Because it is the *perfected* oil stove.
For other reasons see stove at your dealer's, or write our nearest agency.
Made in three sizes and fully warranted.



The Rayo Lamp cannot be equaled for its bright and steady light, simple construction and absolute safety. Equipped with latest improved burner. Made of brass throughout and beautifully nickeled. An ornament to any room, whether library, dining-room, parlor or bedroom. Every lamp warranted. Write to our nearest agency if not at your dealer's.

STANDARD OIL COMPANY
(INCORPORATED)

"A Kalamazoo Direct to You"
TRADE MARK REGISTERED
WRITE TODAY FOR STOVE CATALOG NO. 183.
KALAMAZOO STOVE COMPANY, Mfrs., Kalamazoo, Mich.



Boys Play Ball
An Elegant Baseball Outfit like this for Every Boy Who Writes Us at Once.



Boys, this outfit is a dandy—seven pieces in all: A Western League Ball; Catcher's Mitt, made from good yellow oil tan leather, well padded; the mask is firmly braced, well padded chin and forehead protection; cap any color, college style; fielder's mitt, fine quality oil tan leather, heavily padded palm; the belt is 2½ inches wide with double strap nickel-plated buckle; the bat is made from the very finest quality second growth coarse grain ash and is 33 inches long. Every piece of this outfit is made from the best material. Every boy can secure this outfit without cost. Send us your name and address before they are all gone. Do it now. Address
SUCCESSFUL FARMING, Box 66, Des Moines, Ia.

OUR OFFER

If you will send us two subscriptions to FARM AND FIRESIDE, with 25 cents for each of them, we will extend or renew your own subscription without cost to you, and send you 500 Pictures of Roosevelt in addition.

FARM AND FIRESIDE
SPRINGFIELD, OHIO

It is to your advantage to mention Farm and Fireside in writing to advertisers. Farm and Fireside folks get the very best attention.

Good News for You All!



This is "Duke" with his handsome cart and harness just as he will be given in July to some one of our boys or girls.

These Ponies Will Be Given to Some of Our Boys and Girls in Just a Few Weeks You Can Get One!

Another Great Pony Contest

Just think of having another opportunity to get one of the prettiest Shetland ponies in America, right soon, in plenty of time for the summer's fun! Or of getting a superb Harrington piano that will last a lifetime—all for your very own! Think of how proud and happy, and rich, too, you will be to be the real owner of such a superb pony outfit or such a fine piano. You will be the envy of every one in your town, for "Duke" is the very finest pony we could get, and we looked all over the country for pretty ponies, too. Just see his beautiful mane and tail, and notice how erect he stands. And the cart is a beauty, too—will hold the whole family—but if you would rather have a four-wheeled cart, we will furnish one with "Duke" free of all charge.

But "Duke" isn't the only pony. "Bonny," the second prize pony, pictured in the middle of this page, will also be given away. "Bonny" is a mighty handsome pony, too, and any boy or girl would be mighty proud to have him. You can win him or "Duke" if you will just write to the Pony Man and do as he says. Both ponies are sound as a dollar, thoroughly broken, full grown and as gentle as kittens.

And there are more prizes, too—lots and lots of them, including 25 luxurious Grand Prizes and 25 handsome Alternative Prizes—all for our boys and girls.

Easiest of All to Win

These ponies, pianos and Grand Prizes are going to be a great deal easier to win than any ponies or pianos FARM AND FIRESIDE has ever offered before, because this contest lasts only a few weeks. All our other pony contests have lasted four or five months, but this contest will end in July, in plenty of time so that you will have your pony for the summer's fun if you hustle. The fact that this contest will be so much shorter than our other pony contests means that comparatively few subscriptions are going to win the ponies—much fewer than it took to win our other ponies. No former pony winners are allowed in this contest, which makes it easier still for you. Don't let any one tell you that you can't win. Some one is going to get "Duke," and that "some one" can be **you**, just as well as some other boy or girl, if you hustle a little. In every way this is your greatest opportunity. It will be a perfect "snap" to win "Duke." Do you want him? If you do, hustle!



"Bonny"—Second Prize Pony

Pianos Given Also

Ponies and handsome Grand Prizes are not the only rewards to be given in this contest. Two superb $750 Harrington pianos, made by the famous Harrington Piano Company, Fifth Avenue, New York, are also offered, as alternative prizes to the ponies. If you win a pony, but would rather have a piano, you can have it without a cent's cost. It will be sent right to your home **prepaid**, the same as the ponies and all the other prizes.

The Harrington piano we offer is exactly similar to the one pictured below. It is the Upright Cabinet Grand, four feet ten inches high, five feet three inches wide and twenty-nine inches deep. Highest grade and finest quality throughout. Ebony and ivory keys. Furnished with either fine mahogany, walnut or quartered-oak case, as you wish, beautifully carved. Will last a lifetime and be an ornament to any home in America. It would be hard to find a better piano than the Harrington.

Every Contestant Gets a Prize—You Can't Lose

That is our guarantee, and FARM AND FIRESIDE stands behind it with thirty years of business integrity and over a million dollars capital. No contestant can lose in this best of all contests, and **in addition** to your prize you will get a **cash commission** for absolutely every subscription you get. FARM AND FIRESIDE guarantees that every contestant will be rewarded directly according to the number of subscriptions obtained. Could anything be fairer? As soon as you get started you are **sure** of a valuable prize, and nothing can keep you from winning "Duke" or "Bonny" if you will hustle a little.

How to Get "Duke"

Absolutely the most important thing to do now is to write your name and address on the coupon below (or a postal card will do), and send it to the Pony Man, Dept. 25, FARM AND FIRESIDE, Springfield, Ohio. As soon as I hear from you I will send you pictures of the other prizes, and lots of other things, and tell you just how they will be given away. And I will send you pictures of the pony winners in FARM AND FIRESIDE's last contest, and letters from them to you, telling you just how they won the ponies. All you need to do is to write. But if you want to make sure of a prize the very first thing, don't wait to hear from me, but get ten of your friends to take FARM AND FIRESIDE, or renew their subscriptions one year at twenty-five cents each. Then you will be a prize winner **sure**, and you can keep five cents from each subscription as your cash commission. Just as soon as I get your coupon or postal I will send you all the pictures and other things. Don't wait. Write today—**now.**

The Pony Man

Dept. 25, FARM AND FIRESIDE
Springfield, Ohio

CUT THIS COUPON OUT AND MAIL TO-DAY—DON'T WAIT

May 25
F & F

DEAR PONY MAN:—
Please send me by return mail all the pictures of the ponies and the other things you mention, and tell me just how I can get a pony. I am very anxious to get "Duke," so save a place for me in the contest. I will send my ten subscriptions as soon as possible.

Name.....

Rural Route.....

Town.....

Date..... State.....



$750 Harrington piano. Two of these are offered as alternative prizes to the two ponies

200 Styles of Vehicles
65 Styles of Harness
Sold Direct from our Factory to User



No. 669½. Fancy Car Plush Trimmed Buggy with auto seat, fancy padded wing dash, bike gear and rubber tire. Price complete, $78.00. As good as sells for $25 more.

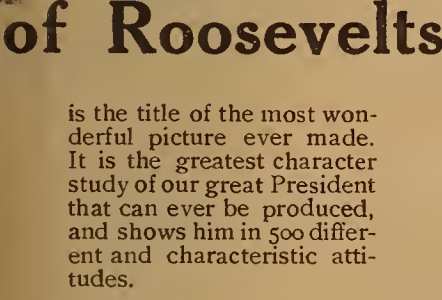
Buy Direct From Our Factory

Saving all expenses and profits of the dealer. Elkhart Buggies and Harness have been sold direct from our factory to the user for 35 years. We are

The Largest Manufacturers in the World

selling to the consumer exclusively. We ship for examination and approval, guaranteeing safe delivery. No cost to you if not satisfied as to style, quality and price. Send for new free catalog.

Elkhart Carriage & Harness Mfg. Co.
Elkhart, Ind.

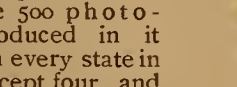


No. 313. Light Surrey with Canopy top and fine auto seats. Price complete, $78.00.

As good as sells for $35 more.

Agents Wanted

Agents $103.50 per month selling these wonderful Scissors. V. C. Glebner, Columbus, O. sold 22 pairs in 3 hours, made $13; you can do it, we show how. Fare Outfit. F. Thomas Mfg. Co., 51 L. St. Dayton, O.



AGENTS, DON'T HESITATE; write at once; we will positively show you how to make $25 every day in the week; new invention, everybody wants one; just hand them out and collect your money; free sample. Braham Co., 799, Cincinnati, Ohio.

AGENTS $300 Every month selling our wonderful **SEVEN PIECE KITCHEN SET**
Send for sworn statement $12 daily profit. Experience unnecessary. Outfit free. F. Thomas Mfg. Co., 751 L. St., Dayton, O.

AN OPPORTUNITY

FARM AND FIRESIDE has just issued a handsome catalogue of over 300 illustrations of articles that can be obtained by getting just a few of your friends or neighbors to take FARM AND FIRESIDE. We will send you one free if you will drop a postal asking for it.

MERCHANDISE PAYMENT DEPARTMENT
FARM AND FIRESIDE, Springfield, Ohio

Half a Regiment of Roosevelts

is the title of the most wonderful picture ever made. It is the greatest character study of our great President that can ever be produced, and shows him in 500 different and characteristic attitudes.

This great picture cost $1,000. The 500 photographs reproduced in it were taken in every state in the Union except four, and at some of the most famous events in American history.

Five years from now these wonderful pictures will be worth dollars, as the supply is limited, and later on, when President Roosevelt is out of public life, they will be treasures to your children and grandchildren.

You can obtain one of these wonderful pictures without extra cost by sending us your renewal or one new subscription promptly. The size of the picture is 13½ x 20½ inches. It is reproduced on beautiful supercalendered stock, and we guarantee that it will reach you in good condition. If your subscription expires this summer, renew it now and get one of these great pictures before this offer is withdrawn.

Farm and Fireside
SPRINGFIELD, OHIO

SHOULD YOUR METHODS BE CHANGED?

IT IS a little queer how some farmers will stick to a losing proposition. One farmer I know, whose land is getting poorer and more difficult to till every year, invariably bales and sells almost all of the straw he grows. The price he receives is a small one, and his land needs humus, just the sort that this straw made into manure would make.

Another farmer I know keeps a few of several kinds of stock, a few breeding mares, a few cows, a few steers, a few hogs, a few turkeys, geese, ducks and hens, not enough of any to cut much of a figure, but enough to almost chore him to death. He has more chores to do than three farmers ought to do.

I know of nothing that is more wearying than a multitude of chores, and nothing increases the number of chores to be done morning, noon and night like a few of a dozen kinds of stock. Many keep a few head of several kinds because they imagine that they could not make the farm pay, or even make a living, if they did not have something in the way of stock of some sort to sell every month or so. If they kept only hogs they would have this, and not half so many chores.

Young men just starting in to farm for themselves write me that they propose to raise a few cattle, horses and hogs, besides various kinds of poultry. I always advise them to limit the kinds to as few as possible—horses and hogs, and a cow or two, or horses and cattle, and no more hogs than they must have, and to leave out the turkeys, ducks and geese. When one comes in from the field feeling pretty tired, and then has four or five horses and two or three colts to look after, feed and water, two or three cows to milk, and several head of young cattle to water and look after, and fattening hogs, breeding sows and shoats to feed and water, besides all the many other odd jobs about the place, he is apt to feel, before he gets through, that life on a farm is not all it is cracked up to be, and he rather wishes he was out of it to stay out.

My advice to all these young fellows is to be sure they do not get so many irons in the fire that they cannot attend to all of them and feel good after it is done.

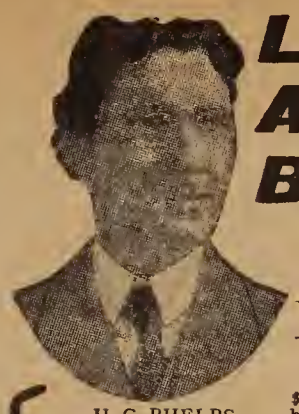
When one finds himself in a rut he should not imagine for a moment that he cannot get out. It is so easy to drop into these ruts, and to continue to follow along in them to disaster. Every man should overhaul his practises occasionally and see whether he is in any rut that he should be out of. Are you getting the yield of grain you should? If you are not doing as well as your most successful neighbor, find out why. If you are raising any kind of stock that does not do as well, and sell at as high prices as his, get rid of it and take a step forward. Don't hold on to a losing proposition.

I well remember a farmer who raised a fine crop of hay and had it all in stack. He was offered three dollars a ton for it, and that was the best he could get. He said it was worth more than that for manure, and he used it for feed and bedding. The manure made from that hay he put on his meadow, and the following two crops he sold for twelve and fourteen dollars a ton. He said, "When I find myself in a hole, I don't sit down, but I look carefully about for a means of getting out with profit to myself. I see my neighbors plowing up their meadows, so I will manure mine. Hay is going to be high." While he was selling hay at a high price they were busy seeding land to grass. He said he always looked ahead to see where ruts led to, and acted accordingly.

I know a farmer who for four successive years followed the "customary" rut of having his breeding sows farrow in March, and he lost fully three fourths of his pigs. I dropped in to see him one day, and during our chat he said, "I have decided to make some changes in my practises. I have lost four crops of pigs by following the customary rule, and next season I shall have my breeding sows farrow about the first of May instead of in March." He did, and from that season he began to climb financially, until he is now in such circumstances that he could retire and live in comfort the rest of his days. He told me that he did not lose a pig worth saving the season he changed his practise, and but very few since.

The success of his experiment in getting out of a rut led him to give much more thought to the ways in which he was doing other things, even down to the smallest chores, and he said he had completely revolutionized his methods. "There is a whole lot of things," he said, "that farmers are doing that could be immensely improved upon if they would only stop and study them out a little and find the best way. They could do better by dropping many practises and changing others—by getting out of ruts and dropping losing propositions; in short, by polishing up their brains and brightening their wits.

FRED GRUNDY.



H. C. PHELPS

Let Me Tell You About This Special Buggy Offer

Just Write Me a Postal for Particulars

I'M the only buggy mannfacturer in America who can make you—to order—a Buggy of as high a quality, and with as many points of merit as this Buggy has—for the price offered.

I want to tell you why.

It has been my desire for the last four years to offer a Buggy for $50.00 that has all the points of merit—and quality—that this Buggy has—but raw materials and labor have positively been too high for me to make a Buggy of this quality at this price, until the recent decline in price of both materials and labor.

Before this decline I couldn't make this Buggy at this price.

You know I make Buggies to order—therefore I can take advantage of the reduction in the cost of material and labor the minute the reduction occurs.

Other buggy makers—who make their buggies up in advance for the Spring trade—have already made their Buggies from high priced material, with high priced labor—consequently they must ask the "big" price.

This Buggy is positively the pride of my Buggy making career. It's the biggest bargain—and the best bargain—I have ever offered. It's all Buggy—GOOD Buggy—and positively guaranteed for two years. I have named it the

Phelps "Fifty" Split Hickory Buggy Made to Order



Now Only $50

I have put my iron clad guarantee of two years on this Buggy—and I'll make it to your order—giving you many options as to trimmings, finishings, colors, etc.

I want to tell you more than I can tell in an advertisement about this Buggy. Just write me your name on a postal and let me tell you the whole story—why I can offer it at this price—why it's such a big value—how I prove to you—that it is a big value—and how I give you every opportunity to be sure you are getting a big bargain when you let me make you this Buggy. I want to tell you how it's sold on

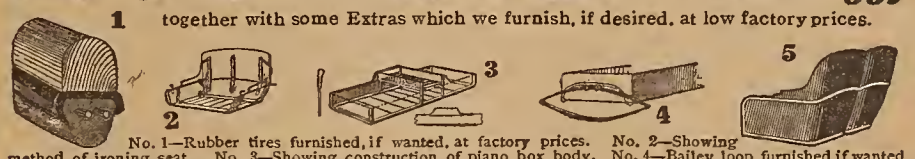
30 Days Free Trial

I've just gotten out a Special sheet on this Buggy. When I hear from you I'll send it, together with my big catalog of all kinds of Split Hickory Vehicles—and Harness—all made to order—all guaranteed—all sold on 30 days' free trial. This handsome book and circular is **FREE** and it will be sent at once. **DON'T DELAY** if you are interested in the best Buggy Bargain of the year, because I can only make 500 of these Buggies this season, and at this price they'll go like wildfire.

Notice the small illustrations below. These show you only a few of the 130 points of merit of this Special Job—also show some of the extra equipment that you can have at small factory prices.

A Few of the 130 Points of Merit of this Buggy

1 together with some Extras which we furnish, if desired, at low factory prices.



No. 1—Rubber tires furnished, if wanted, at factory prices. No. 2—Showing method of ironing seat. No. 3—Showing construction of piano box body. No. 4—Bailey loop furnished if wanted No. 5—Automobile seat furnished, if desired, at small extra cost.

Address me personally and write me TODAY. Just send a postal with your name and address—that's all you need to do.

H. C. PHELPS, President
Ohio Carriage Mfg. Co., Sta. 23, Columbus, O.

Clothes for every possible occasion in the newest and smartest of designs are charmingly illustrated in the

Spring and Summer
Catalogue of
MADISON SQUARE PATTERNS

This catalogue is like a big, illustrated fashion magazine. The cover shows a French costume exquisitely colored, a perfect reproduction of the French gown as Miss Gould saw it in Paris.

There are pages of French blouses and smart American-made shirt waists; there are princess gowns for street wear and for evening occasions; there are many new fashions shown for young girls, and pages of clothes all practical and yet pretty for children.

We will send this catalogue to your address if you enclose with your order four cents in stamps. In writing for the catalogue address

PATTERN DEPARTMENT
FARM AND FIRESIDE 11 E. 24th Street NEW YORK CITY

THE NAIL ON THE PORCH

There is a nail on the porch near the door,
Half way between the ceiling and the floor;
I put it there to serve me as a rack,
So I hit that nail on the head with my hat.

I am in the field till the meals are done,
And then with a smile and a laugh I come;
I feed my team, and to the house make a track,
And hit that nail on the head with my hat.

I am happy at morn, when I start to work,
And happy all day, for I never shirk;
But I am most happy, for a fact,
When I hit that nail on the head with my hat.

Once I took a trip. many miles away,
And stayed for a month, a week and a day;
And the first thing I did when I came back
Was to hit that nail on the head with my hat.

WILLIAM J. BURTSCHER.

JONES' WAY

"Good-morning, Mr. Jones. Out early in your garden, I see. Say, how many crops do you raise in a year, anyhow? That's two on that one piece."

"Oh, about three or four. In the fall I plant onions, cover well with pine brush, and when that is off in the spring, and the onions marketed in bunches, I plant beans or late sweet corn. In that patch over there I had my early potatoes, and now it is in beans, to be followed by onions this fall."

"And I see you've got tomato and cabbage plants set all among your corn, and a hill of bunch beans at every hill of corn. And, I declare, if you haven't got a cabbage set between every two hills of pole beans, raising two crops all at once!"

"Of course. When I want to cut the corn there are no bean vines in the way; and when the pole-bean crop is over, and the poles and vines removed, I have a fine crop of cabbage left to grow, just far enough apart to do well."

"But how do you manage so the ground don't get poor with it all?"

"Easy enough. Burn all my trash on it, and use both stable and hen manure mixed with the soil, and all the soapsuds and dish water there is. Few people suspect the richness of either, and generally waste both. But what do you think of raising cucumbers in corners of the meadow? Cut a square of grass sod out in some corner where you won't mow, plant your seeds, and watch them whoop along. The cool grass helps the big cukes to keep cool."

"And the bugs swarm, eh?"

"Ah, but I use a bug trap and insect powder. Ever see a bug trap? Just lay a shingle alongside your plants, with a stick under one end. Every morning turn it over, and you will find all the pumpkin and squash beetles under it. Then you can swat 'em as hard as the law allows.

"I could never raise pumpkins here till I punched three nail holes near the bottom of some old tin cans, and set them an inch or two deep close above each hill of pumpkins. Then after supper all summer I poured a quart of water in each can. All night the water leaked out over the thirsty roots, and my pumpkins liked it.

"See what it is to remember the words of our old primer: 'A farmer is one who farms,' now!" CLIFFORD E. DAVIS.

SPRING FEVER, MENTAL AND PHYSICAL

A Buffalo daily speaks of "mental spring fever" as "a rebellion of the mind against dull, daily routine; a protest against pavements and brick and mortar; against the doing of allotted tasks at desk or bench."

It is well enough to speak of mental spring fever for city people, but such a disease should be unknown to farmers. There is no dull, daily routine, no monotonous daily tasks. Variety is the spice of life, and the farmer's life is an everlasting chain of changes and variations. In the winter it is the restfulness of home life, close companionship with the family, care of stock and pets, the home reading course, the frequent attendance at meetings and institutes, and an interchange of ideas and experiences. Then comes spring, with its manifold tasks of preparing the soil, sowing and planting, using dozens of different tools and doing dozens of different jobs. Always changes from one thing to another; never stagnancy! His thought always occupied; brain never idle. No monotonous, mechanical, daily grind! Happy farmer!

For the city people, however, the cure recommended—namely, changing the daily habit, walking, sunlight, "working in the yard," anything that will for an hour each day break the monotony of humdrum existence—is certainly the proper one. A little yard with flowers, a little garden, a little digging, a little hoeing and planting, etc., will prove the best cure for this kind of spring fever, and it will tend to prevent heart aches and grumbling arising from discontent with the monotony of the grind at desk or bench much better and more thoroughly than evenings and leisure hours in the saloons.

The same paper describes physical spring fever as the protest of man, the animal, against his diet. "The latter part of the winter in temperate and northern climates has marked a steadily growing increase in the use of heavy foods and a lack of fresh things. What fruit has been eaten has been largely preserved or dried, and nearly all food has been cooked. The craving for green salads and fresh fruit is only an expression of a physical necessity. Vegetable acids and salts are essential to perfect activity of the body cells."

There may be some truth in the claim that cooking changes the chemical nature of these complex organic salts and acids, and that such foods must be used in the raw state, in order that the full benefit may be derived from them. We like the lettuce, and the radishes, and later on the strawberries, in this way, but we do not despise the dandelions, and the spinach, and asparagus, and rhubarb, etc., although they have to be cooked. They greatly help in prevention of "spring fever." All these things we have in free and full supply, and plenty of apples besides. Our friend of the "Rural New-Yorker" wants his apples baked, and considers them the panacea for many ills. We eat ours both raw and cooked in various ways, and find them palatable and beneficial. No severe attacks of physical spring fever in our case, either. Happy farmer! T. GREINER.

A FARMER'S HANDY FILE

Articles needed: A package of four-by-eight envelopes (or any convenient size will do), a small pocket note book and a lead pencil. Number the envelopes 1, 2, 3, etc. On page 1 of the note book write the following:

Horses.
1. Breeds:
   a. Hambletonian 2
   b. Clydesdale 2
   c. Percheron 2
2. Feed for 3
3. Care of 3
4. Diseases of:
   a. Pinkeye 5
   b. Bots 5
   c. Colic 5
   d. Worms 6
5. Miscellaneous 7

The above or something similar can be used. This is only an example. On another page take cattle the same way; on another page, hogs, etc.—a page for each subject in which you are interested.

When you are reading papers, and come across something you think will be of use, clip it out and file it away. If it is an article on colic of horses, refer to the little note book and place the clipping in the envelope whose number corresponds to the number opposite "Colic."

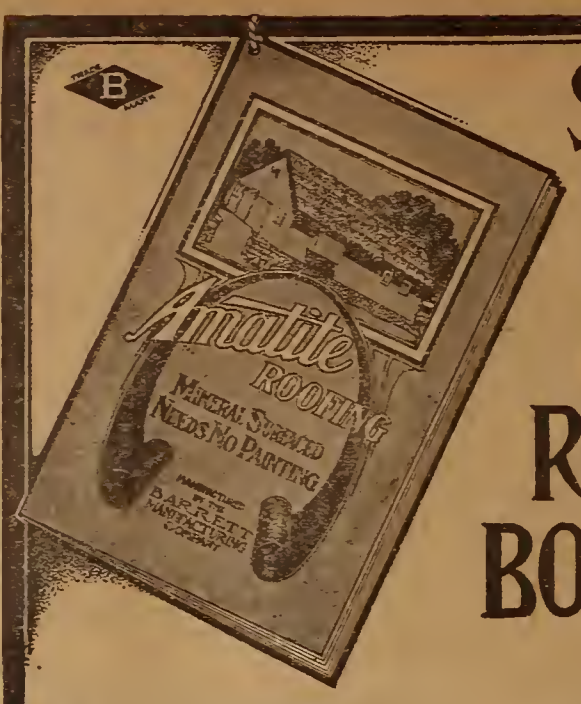
Thus it is seen that the note book is a handy index to the file. This same method can be used by housewives to file away recipes. F. R. S.

TO THE TOBACCO FARMERS OF KENTUCKY

I have several more letters from Kentucky farmers, stating that they are shut out from growing tobacco, and asking how they would best proceed to make a living.

It wouldn't take me more than five minutes to decide on my future course if I were one of them. In no section of the country does corn do better than in the tobacco-growing sections of Kentucky, and the farmers there should have dropped tobacco years ago and taken up corn. It does not exhaust the soil like tobacco, and does not require half the labor nor half the fertilizer to make a full crop that will yield a larger proportion of profit to the acre. I would grow corn and clover, and feed both to high-class hogs.

Kentucky should grow more than twice the quantity of corn that it now does, and should be as famous for the high quality of its hog products as any state in the Union. It will be a blessing to that state if the present tobacco uproar leads the farmers to drop tobacco for all time and grow cereals and fruits instead. A much larger measure of prosperity will come to both the farmers and the state at large, to say nothing about the advance in other matters that are vital to the success of a people. FRED GRUNDY.



SEND FOR FREE ROOFING BOOKLET

MOST of the roofing manufacturers supply some simple sort of a circular or pamphlet with samples of their roofing.

The makers of Amatite Roofing have gone into the matter more deeply. Their Booklet entitled "Amatite" is a very handsome and interesting piece of printing.

It covers the whole roofing subject thoroughly.

The Ready Roofing proposition is explained at length, and the whole history of these roofings is given in detail, showing the steady progress that has been made. As this Company is the oldest and largest concern in the field, the history is accurate. This Company has been in the roofing business for over half a century.

Many of the improvements in ready roofings made from time to time have been its inventions, and the latest improvement, and in many respects the most important, is offered to the public in Amatite Roofing.



This material, as explained in the Booklet, has a surface of *real mineral matter*—Amatite—to take the brunt of the weather. It does not need painting. The kind of roofs that need painting are *out of date.*

The paint and labor of putting it on cost more than an Amatite Roof. Amatite Roofing, once laid, requires no attention whatever. Its mineral surface does not require painting any more than a stone wall does.

The Amatite Booklet also explains the value of the Pitch in Amatite Roofing. Pitch is the *greatest waterproofing agent ever discovered.*

Water does not affect it in any way. An unbroken lining of pitch furnishes complete and permanent protection, which can only leak by being actually punctured, and such a lining sheet is just what Amatite provides.

It is impossible to give the explanation in detail here, but if you will send for the Booklet, which is free, you will find the arguments in full.

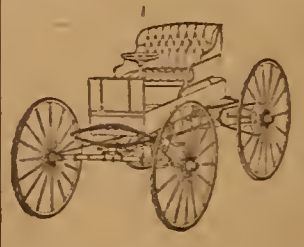
With the Booklet the manufacturers send a free Sample of Amatite, in order to show just what the mineral surface is like.

A postal card addressed to the nearest office of the Company will bring the Booklet and the Sample to you by mail. Every progressive farmer should have it.

BARRETT MANUFACTURING CO., New York, Chicago, Philadelphia, St. Louis, Cleveland, Allegheny, Cincinnati, Kansas City, Minneapolis, New Orleans, Boston, London.

AMATITE ON ROOF OF EAST MACHIAS LUMBER CO., EAST MACHIAS, ME.





A MOTOR BUGGY FOR YOU

10 Horse Power. PRICE $450

A handsome, practicable, economical, rubber-tire motor buggy. Meets the requirements of the farmer, business man, physician, banker, lawyer, etc.; most economical vehicle made; speed, 20 miles per hour; suitable for country or city; goes anywhere—rough roads no obstacle; a great hill climber; always ready; requires no experience to operate. Absolutely reliable. Full particulars on request. Immediate shipment. Write at once. Address

ECONOMY MOTOR BUGGY CO., DEPT. Y, FT. WAYNE, IND.

Reliable Agents Wanted Everywhere

"A YARD OF ROSES" GIVEN



"Yard of Roses" is one of the grandest flower pictures ever offered; 1 yard long, on heavy copper-plate paper, in 10 beautiful colors; over 300,000 sold in last 30 days; a handsome ornament for any home that you will always be proud of. To introduce our splendid farm journal which has a half million readers, we mail this grand work of art, all charges paid, to anyone who sends 10c (stamps or silver) for trial subscription to THE VALLEY FARMER. Send at once before they are gone. Address THE VALLEY FARMER PICTURE DEPT., 569 Jackson St., Topeka, Kansas.

WANTED NOW

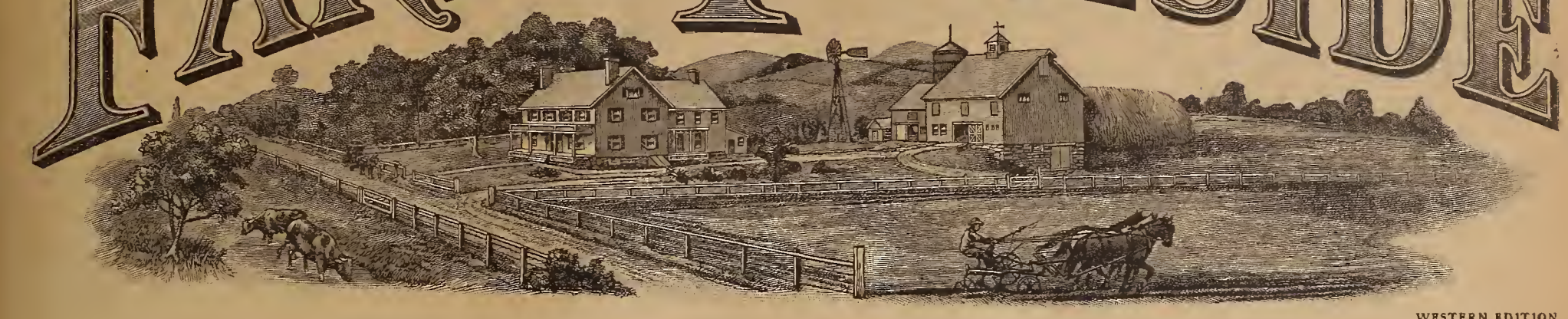
A man or woman, boy or girl in every town or settlement to act as official representative of FARM AND FIRESIDE. Steady employment, and no experience necessary. The most liberal merchandise rewards. Spare time may be profitably utilized. Territory unlimited. Acting as our representative is a most dignified employment, and you are well repaid. If interested write for our big, free catalogue, to

Merchandise Payment Department, Farm and Fireside, Springfield, Ohio

LIBRARY
RECEIVED
JUN 11 1908
U. S. Department of Agriculture

AN ILLUSTRATED FARM AND FAMILY JOURNAL

FARM AND FIRESIDE



WESTERN EDITION

Vol. XXXI. No. 17 SPRINGFIELD, OHIO, JUNE 10, 1908 TERMS—{1 Year, 24 Numbers, 25 Cents. 5 Years, 120 Numbers, $1.00.

Looking Ahead---The Conservation of Our Forest Resources

By The Hon. Gifford Pinchot, Forester, United States Department of Agriculture

Less than a year ago President Roosevelt first set forth, in a speech at Jamestown, the need of public action to check wasteful use of all our great natural resources. Now a conference, the like of which was never before held since the United States came into being, has assembled and deliberated for three days in Washington upon what is recognized as the most important problem of the near future. The governors of thirty-six states and territories have met with the President and with distinguished citizens and representatives of many interests to take counsel together concerning a recognized and serious danger to the prosperity of our nation. A new movement, the movement for the conservation of our natural resources, is fairly launched.

What has made this movement necessary? Essentially, that in our national economy we have entirely failed to take account of the most fundamental of business principles—the necessity of distinguishing between capital value and income. The merchant who does not keep account of stock, the railroad which lets its property deteriorate while it pays high dividends, the man who mortgages his farm and lives on the proceeds, is traveling toward bankruptcy. So is the nation which does likewise.

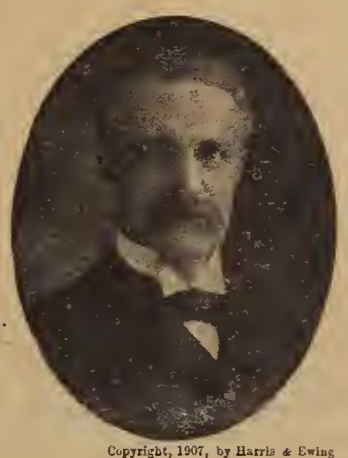
The Consumer Should Render Service

Happily, in the United States a healthy national spirit recognizes that the man who consumes without rendering service to his fellows in some form of useful activity is a profitless member of society. We do not think well of drones who idle life away on the strength of what others have made for them. Yet there is no great difference between living extravagantly on what Nature has laid up for us and living without work on what our parents have laid up for us. With all our immense individual energy in accumulation, we have in many ways followed the course of the prodigal, and scattered what should have been conserved.

A striking example is our treatment of our forest wealth. No sane man, of course, will contend that we should have left uncut the vast and magnificent forests which once covered so much of the country. East of the prairies almost every acre of farm land had to be conquered from the forest. Much of this region is still woodland. In so far as the primeval forest gave way to a better use of the land, and in so far as the standing timber everywhere was converted into capital value of other kinds, it is unnecessary and unwise to waste any regrets on what took place. But we did not stop with clearing the way for civilization; we did not stop with turning trees into houses and trading them for goods; we also burned up, without benefit of any kind, a major part of what should have served for future supply, and severely impaired the power to grow forests on land good only for the growing of forests.

Some See No Cause for Alarm

Any one who travels through the East and looks superficially at the country is likely to think the idea that we are threatened with an early exhaustion of our timber supply absurd. He sees forests covering the hills and ridges and breaking the sweep of farms, until, if he is ignorant of the real situation, he may perhaps think there is no possibility of a shortage. But he should remember that this forest growth that he sees from the train is of little value for saw timber. The high-grade trees were cut out of it long ago, and what is now to be seen is chiefly good for fuel, fencing, railroad ties, and the like. Fires and other forms of abuse have so changed the natural conditions that the amount of wood grown per acre each year is on the average only from one fifth to one tenth of what it should be. In some parts of the East the area occupied by the forest is actually increasing, but its quality is usually very inferior. Taking the forests of the country as a whole, and comparing them with the demands made yearly upon them for material which we cannot well do without, there can be no doubt that a timber famine is imminent. Had we properly conserved our forest resources, this would not be true.



Copyright, 1907, by Harris & Ewing

GIFFORD PINCHOT

One of the great ends which the forest serves is the control of streams. A study of stream control along broad lines, to learn how our waterways can be made to serve the public best, was inaugurated by President Roosevelt a year ago, when he appointed the Inland Waterways Commission. It is curious how long we fail to take the obvious point of view. Every use of a stream, from its source to its mouth, for power, for irrigation, for water supply or for navigation, is apt to affect every other use. All should go together. Yet we had been endeavoring to handle each use separately, as though one section of a stream had no relation to what was above or below it. The moment we began to see that the use of a stream for navigation, for irrigation, for power, for domestic supply, had something to do with its headwaters, we began to see that the forest has a great influence on our streams. Then came the inquiry, "How far does the forest actually affect the use of a stream, and is it true that forest destruction at the headwaters of a stream can destroy its value for all its various uses?"

Nation Has Failed to Use Foresight

Nothing is better known than the influence of the forest on rain water after it has fallen. The Ohio River at Wheeling, in the ten years from 1888 to 1897, had fifty floods that lasted one hundred and forty-seven days, with a rainfall of forty-two inches. In the next ten years there were fifty-five floods, which lasted two hundred and twenty days, though with only thirty-seven inches of rainfall. In the Cumberland River the same two periods show an increase from eighteen to thirty-three floods, and from forty-nine to ninety-four days, with a smaller rainfall during the second period. It is the forest destruction at the headwaters which has caused the increase of the floods. There are many other examples, supported by measurements and figures, which illustrate this effect. Wood and water are the two great raw materials which the forest yields to the nation.

We often fail to apply the same principle to national action which we apply to our action as individuals. We expect the private individual to use foresight. When we see, as we sometimes do, mothers and fathers watching over the little daily things in their children's lives, but totally insensible to some great crisis or malady that is coming over the child from outside the daily routine, we blame their shortsightedness. Are not the people of the United States very much in the same attitude of mind? We have attacked our natural resources as no other nation ever has, and we have made them yield us prosperity, vigor, intelligence and power without a parallel. The destruction of our resources has given us these splendid things. Just so the overworked child may produce certain fine results; and the proud mother does not see the danger which the overwork entails. The people of the United States have been making their wonderful progress and gathering their wonderful wealth largely at the expense of the future. While we have been getting rich and efficient we have at the same time been producing conditions which if not checked will make vigor, power and efficiency impossible for the people who are coming after us. It is a serious indictment, if true, and I believe it to be true.

Shall We Repair the Damage?

We have now standing in the United States less than thirty years' supply of timber. Timber is a renewable resource under some circumstances. We can restore the forests at great expense. We can do something to repair the damage. More than three fourths of the forest lands of the United States are in private hands. The remaining fourth is being cared for by the national government. The demand now is exhausting the whole four fourths three times faster than timber is produced. One hundred and sixty-five million acres of national forests have been set aside, and we are taking care of that part of the supply. From this vast area fires are now virtually excluded. Last year, with more than seven hundred million dollars' worth of standing timber in the national forests, the loss by fire was less than thirty-two thousand dollars. Yet with all the government can do, we are certain to have a severe shortage of timber. And when the forests fail, every man, woman and child is going to feel the pinch.

There are other resources which are not renewable. These we can never restore, once they are gone. Coal is an example. We have left behind in the earth unused perhaps fifty per cent of the coal in the mines we have worked in this country, so that when these same mines have caved in there is as much coal lost in the ground for all time as was taken out. We have wasted our oil and natural gas. We have allowed the public ranges in the West to be reduced to about half their former carrying power. That affects the price of wool and beef in every city and town. One by one we have used up our natural resources. The President has said that our streams are less navigable now than they were fifty years ago because we have allowed the best soil from our farms to fill up the streams. The destruction of these resources means great future hardship, great suffering, great loss of efficiency for the nation. We ought not to let our descendants come into possession of a worn-out land, like Palestine and northern Africa.

Do not understand that I believe the United States is coming to ruin. None of us believes that. This must and will be made a happy, prosperous country a hundred or five hundred years from now. We all believe that the manifest destiny of this nation of ours is to demonstrate to the world that a democratic republic such as ours is the right way for a people to govern itself, that under such a form of government the most happy and prosperous nation may be developed, and that we stand for the support of righteousness in the world. This is our manifest destiny, and was from the first. But that destiny must be fulfilled through the action of human beings. We must take our share in bringing it to pass. This is true patriotism—the love of country which inspires sacrifice for the sake of the common welfare.

A Declaration of Principles

At the conclusion of the conference of governors in Washington a declaration of principles was adopted which shows how profoundly that important and representative body recognizes the obligation laid upon us as a people to meet and solve this problem of conserving our resources. That statement said:

"We look upon these resources as a heritage to be made use of in establishing and promoting the comfort, prosperity and happiness of the American people, but not to be wasted, deteriorated nor needlessly destroyed.

"We agree that our country's future is involved in this; that the great natural resources supply the material basis upon which our civilization must continue to depend, and upon which the perpetuity of the nation itself rests.

"We agree, in the light of facts brought to our knowledge and from information received from sources which we cannot doubt, that this material basis is threatened with exhaustion. Even as each succeeding generation from the birth of the nation has performed its part in promoting the progress and development of the republic, so do we in this generation recognize it as a high duty to perform our part, and this duty in a large degree is the adoption of measures for the conservation of the natural wealth of the country."

With reference to definite action, the declaration said:

"We agree that this co-operation [between the nation and the states] should find expression in suitable action by the Congress within the limits of, and coextensive with, the national jurisdiction of the subject, and complementary thereto, by the legislatures of the several states within the limits of, and coextensive with, their jurisdiction."

RAISE THE MORTGAGE!

A MAN in Indiana writes me a letter about a rather serious problem he has to solve, and wants me to tell in FARM AND FIRESIDE what I think his chances are for winning out.

He says he has seventy acres of the state on which he pays taxes. He did think he would say he had seventy acres under his control, but he rather thinks he is controlled by the seventy acres. He says that a healthy mortgage has sat upon this farm for nine years, and so far has hatched nothing but a rate of interest that he is not much interested in. He declares that every time he forks over the interest much of his interest in the place goes with it. He would like to rid the place of this incubus so that he can truthfully say he is owner of it, instead of merely manager.

There are forty acres of fair land that can be tilled, and thirty acres that are a little peculiar, being rather clayey, stony, brushy and abruptly undulating. He has cut out the brush on part of this land and has secured a fair stand of grass, and he would like to know if it will pay him to clear off more of it, and seed to grass, and what kind of grass, and what he shall do with the young brush that constantly springs up.

I rather think that if he took more interest in his part of the state he would soon have less interest to pay on it. In clearing that brush and trash off his land a few Angora goats would be an efficient help. I never owned one, but I have seen brush land they had run on a year, and it looked rather ragged. He should clear that brush land as soon as possible, or get it to growing trees. In the meantime he should make that forty produce the best crops possible, economize at every point and hoist that mortgage off the place just as soon as it can be done.

Not long ago a man told me that he had worked the economy dodge to the last notch in trying to save up for the liberation of a mortgage, and that he still saw no hope of letting it get away during his lifetime. I told him to keep a strict, itemized account of all his expenses for a year, then go over the account and mark out what he might have saved, and the next year save it. He long ago cleared off the debt, and now has a surplus. Many a man imagines he is working the economy game to the limit, when he could, if he went about it right, save a considerable sum every year. I have known men who were anxious to pay off a debt, or accumulate a sum of money for some purpose, to live on seven to ten cents a day. And they did first-class work on books, as salesmen, teachers, florists and poultry raisers. A real live man is not content to follow along in the same rut all the time. He gets out and does things. One can do a lot of things differently from the way he is now doing if he will try, and almost invariably with great benefit to himself. F. G.

◈

THE BEST WAY

A man in the eastern part of Illinois comes with a grievance. His neighbor has put in a tile drain which empties into his orchard. To get the outlet he had to bring the tile to within six inches of the surface, and run it almost level for a long distance back. "Subscriber" says the water will flow slowly across his orchard, keeping the hollow wet and soft all the time, and making a mud hole of it. He offered his neighbor the privilege of running the tile across his orchard, about two hundred yards, to a good outlet, but he preferred to make a mud hole of a strip ten or fifteen feet wide. He says, "Shall I dam the water back on him, sue him for damages, or knock him in the head?"

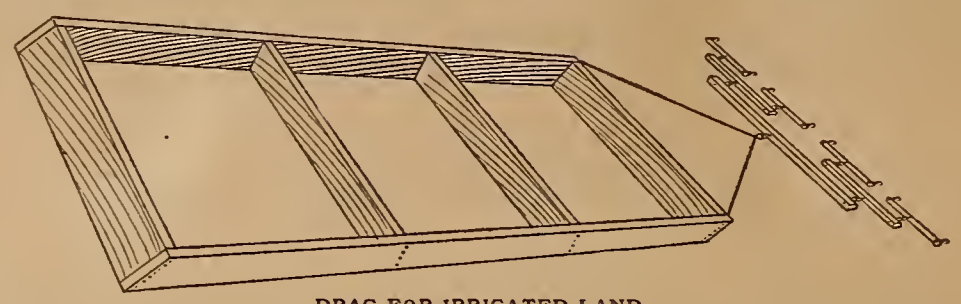
I would do neither of those things. I would put in a tile drain from about ten feet from the end of his drain through to the outlet below. At the head of my drain I would sink a good-sized sewer pipe, having the top even with the surface of the ground, and the bottom to open into my tile drain. Then I would cover the top with some screen wire, to prevent trash from getting in and clogging the drain. I would then shape the surface of the ground about the sewer tile so that the water would flow from his drain into it, and let things work out as they naturally and quickly will. Your drain will keep your land dry, so there will be no wash, and instead of a mud hole you will have a dry strip. In two or three years his drain will fill where it is almost level, so it will be worthless, and many of the tile will be broken by frost, and the work will all have to be done over again. This plan beats any other, and will be ninety per cent cheaper. You can build a little pen about your inlet tile to keep stock off it, and your drain will be good for a lifetime. FRED GRUNDY.

◈

DRAG FOR IRRIGATED LAND

This drag is sixteen feet long and eight feet wide and is pulled lengthways, so as to fill all furrows or low places and take off all high places, as must be done where irrigating.

I usually use three-by-ten-inch stuff to make it, but two-by-ten will do. The side pieces, which are sixteen feet long, I shape at the front ends like sled runners, at an angle of about forty-five degrees. Then I put the front crosspiece



DRAG FOR IRRIGATED LAND

at that angle, so that it will slide over the soil.

At intervals of about five feet back from the front piece I place two other crosspieces. These are both set straight up and down, and it is well to face them with iron up about four inches, so that they will keep sharp and take hold of the soil.

The rear crosspiece should be placed at an angle, as with the front piece, so that it will slide over the soil and make it smooth.

Four horses are required to pull this drag, but if properly made and enough stock used it will do excellent work.

E. L. BUCK.

◈

LAYING A DRAIN IN SOFT GROUND

The writer saw a scheme in southern Missouri some time ago for keeping a drain in line in soft, swampy ground, that possibly will be of interest to some of the readers of FARM AND FIRESIDE.

A drain had been laid through a small peach orchard, with the result shown in Fig. 1. A soft, swampy place, some three or more rods long, was crossed with the tile. When the soft place dried out the tile was thrown out of line as shown. A new ditch was excavated, and stakes driven two or three feet apart, as shown in Fig. 2. Some of them were driven down eighteen inches, while others were driven thirty-six inches before they struck solid ground.

A one-by-four was then nailed on top of the stakes, and on this was placed the tile. The drain has since kept in line, and now, four years after being placed in the ground, seems as good as the day it was laid. Of course, care must be exercised in leveling the tops of the stakes; in this case they were driven to solid ground and the tops cut to a line with a hand saw.

J. E. B.

◈

CUTTING AND CURING THE HAY CROP

On all farms where the growing and feeding of live stock is a leading branch of agriculture the quantity and quality of the hay crop is an important matter. The hay crop forms the basis upon which we must figure in computing the rations of the various kinds of animals that are kept on the farm.

We have too many farmers who are feeding out their hay on their own farms without deriving its full feeding value, and it is along these lines that I desire to present a few thoughts and make a few suggestions. The time is past when we can afford to feed live stock at an actual loss and make good this loss in the amount of manure made from unprofitable feeding operations.

The most common mistake is made when the grass is allowed to stand until it becomes overripe before it is cut. When the hay is cut early the feeding value will more than make good any loss that there will be in the total yield. The early cut hay is more easily digested and more palatable than the late cut hay. When we compel our animals to waste their energy in masticating, digesting and assimilating coarse, woody hay it is unreasonable for us to expect them to utilize their energy in storing up animal products for us.

After we have done everything possible to make the grass yield a profitable crop, the whole feeding value should be preserved, and right here is where the great secret of success lies. It requires good judgment, skill and prompt action to secure the hay crop at the right time and save all of the rich and good properties of the grass.

One of our most prominent statesmen made the assertion that if he had but five minutes allowed him in which to shave he would spend three minutes in preparing his razor. It is the same with the management of the hay crop. We must have everything ready to push the work with a vengeance. Every tool should be in condition to do its most efficient work. The racks, wagons, forks, ropes, rakes and other tools should be ready for business, and we must plan to keep everything moving while the weather is favorable. It is fully as important to have everything ready as it is in the actual work of handling the hay.

With clover I believe that the best time to begin cutting is just before the field is in full blossom. Then it contains more juice, fat and richness. These are the substances that make hay; without them there is little left except wood. They should never be allowed to wash out with dew or rains nor be dried out by the sun and winds. Success in handling hay depends upon retaining these substances until the hay is cured and ready for the animals to consume.

With clover I believe that almost without exception the best results will follow the practise of cutting in the morning after the dew is off. Then, if the day is sunshiny and favorable, the tedder may be started after one o'clock and kept going until toward evening; then the clover may be raked and cocked and allowed to cure for two to four days, and opened up the morning of the day it is to be hauled to the barn, and allowed to air out until afternoon before it is to be hauled to the mow. We should bear in mind that it is the air, and not the sun, that cures hay the best. Now, I do not lay down this rule for all occasions nor for all hay growers to follow, but it must be along these lines if the clover is secured in the best possible condition with a minimum loss of leaves and food value.

There are certain conditions, such as weather, help, and the like, over which we have no absolute control, that may cause us to change our well-laid plans, but generally speaking the method outlined will be found the most satisfactory of any method that we may follow. It will be found a good plan not to mow down more at one time than can be properly handled with the teams and help that are available.

If we allow the clover leaves to become dry, there will be a large loss and the feeding value of the crop will be greatly lessened. In many cases a loss of half the feeding value of the crop comes from allowing it to become too dry by exposure to the sun and wind, or from becoming wet and musty from long exposure to the rain and cloudy weather. Hay caps are an excellent thing to use when there is a large amount of clover left over night in the cocks.

There is one gain in cutting clover early, and that is, the plants start a vigorous second growth that protects the roots during the hot summer weather that usually follows haying, and in many instances a good second crop is assured.

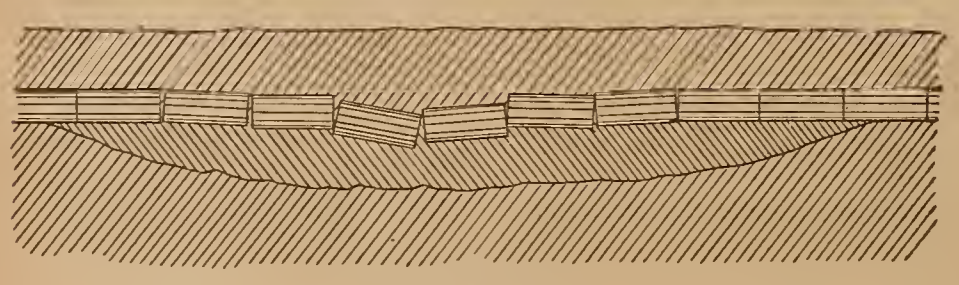
In the cutting and curing of the timothy hay the management is less difficult, as the grass will require less curing before it is in condition to go into the mow. Timothy should be cut while in full bloom, and the best time to cut it is in the afternoon, as the plant contains less moisture at that time than at any other time during the day; and if it is cut in the afternoon, a rain the same night will not do it serious harm, especially if the tedder is started early the next morning. The earlier we loosen up the swath and give the air a chance to dry it, the sooner it will be in shape to go into the mow. After it has been tedded a few times it should be raked into windrows and tedded in the windrow two or three times, and the windrows turned and tedded until fit to go into the mow. Timothy should be ready for the mow the second afternoon after it is cut if the weather conditions are favorable, and it should not be cocked up in the field unless it looks like rain the day after it is cut. When unloaded in the mow care should be exercised in keeping it well spread and tramped down, especially if unloaded with a horse fork.

The time for cutting timothy hay may be governed largely by the kind of animals that are being fed and by the uses that they are to make of it. Cows that are being milked should have early cut, sweet hay. Horses that are being worked will thrive fully as well, if not better, on timothy that is cut later, while a little out of blossom. Thus the first cuttings will make better cow hay and the later cuttings will make good horse hay. Many good farmers still cling to the old idea that because late cut hay will analyze better than early cut hay it has a higher food value, but it is a great mistake for us to consider the matter in this light.

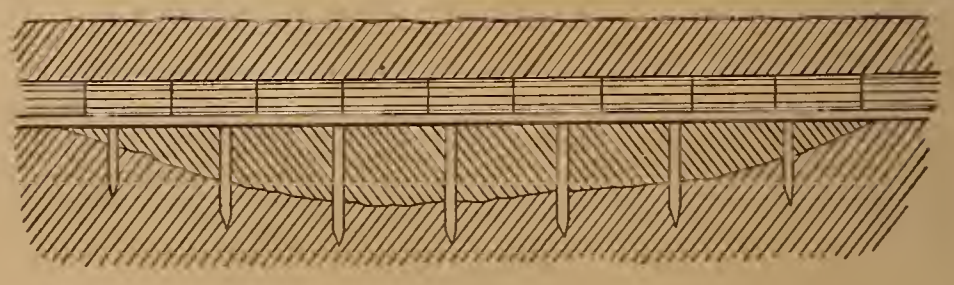
Take late cut hay and feed young cattle on it during the winter and they will become thin; then turn them out to pasture in the spring and they will shed off their old hair and take on a look of prosperity. How is this to be explained? Not that the grass contains more protein or that it is a more nearly balanced ration. The difference is due to the mechanical condition of the grass being better adapted to supply them with nourishment. It is green, succulent and more easy to digest. Grass is Nature's food for cattle, and the more nearly we can approach preserving our fodders in that natural condition, the nearer we will come to obtaining an ideal food for our live stock. When we preserve that rich succulence that Nature puts into our grasses we will get the highest development that our animals are capable of reaching.

There is no question of more importance than that of preserving our grasses in a condition so that they will be the most palatable and digestible. If not palatable, they will not be eaten, and if not digestible, they will not produce good results. It shows that something is wrong when one third of the feeding value of our grasses is lost because the animals will not eat the hay or because they could not digest what they had consumed.

W. MILTON KELLY.



TILE DRAIN NO. 1



TILE DRAIN NO. 2

◈

NEW SAWS AND FRESH FILINGS

The grocer may sell a short pound of sugar to the farmer—but there is no chance for the farmer to sell a short dozen of eggs to the grocer.

How distasteful it does seem to see a farm which has no place for a scrap pile, and yet has scraps scattered all over the place—an old wagon wheel here, a broken top or a dilapidated plow there.

This is as surely the day of education for the farmer as it is for the lawyer or physician. Of course, his school days are over, but he can send his sons, and at the same time he can study the same books that his boys are using in the agricultural colleges, and not only obtain enough information to show an increase in his crops, but be in a position to know what the boys are talking about and trying to do when they come home.

W. J. BURTSCHER.

A Chapter on Fertilizers

SEVERAL readers ask for information on the mixing and use of fertilizers. Mrs. J. R., of Michigan, writes: "Please send directions for mixing fertilizers at home, and for using them on plants. Stable manure is too dear to buy. Give us a 'lecture' on fertilizers soon."

The matter of "home mixing" is a problem which concerns the large buyer and user of plant foods more than the home grower or other small planter. In ordinary extensive-farming operations the closest economy is absolutely necessary. If plant foods have to be purchased, to be used for the production of ordinary cereal crops at ordinary prices, only careful buying can leave a chance for profit in the transaction. Otherwise the increase of crop may not pay the cost of fertilizers used. In the production of crops that bring a relatively higher price, such as potatoes, fruits, garden vegetables, flowers, etc., the chances of profit in the transaction will be much greater, and there may be chances of very fair profits even if we buy ready-made fertilizers at highest retail rates.

It is only the large buyer who has the advantage of buying at lowest (wholesale) prices. If the large farmer or orchardist who buys acid phosphate (superphosphate), potash salts, etc., by the carload saves a dollar a ton in the first cost, and another dollar or two a ton in freight, it means something and gives him a big start of the man who buys two or three tons at retail rates, with the larger cost of transportation added. The New York State Fruit Growers' Association sells to its members all kinds of standard chemicals needed in our modern farm operations at lowest wholesale prices when large quantities are taken; but the scale of prices, with freight added, must necessarily be much higher when small quantities only are bought.

The ingredients of plant foods which we really need for "home mixing" are but few. Chief among them is dissolved rock, or superphosphate, which costs about fifteen or sixteen dollars by the ton, and next muriate of potash, the cheapest source of potash, costing in the neighborhood of forty-five dollars a ton. In gardening operations we frequently use nitrate of soda, the best source of nitrogen, costing about fifty dollars a ton. Many other things may be found locally available, such, for instance, as tankage, wood ashes, bone meal, dried blood, fish fertilizer, etc.

"HOME MIXING" NOT CONVENIENT FOR THE SMALL OPERATOR

All these things may come handy for the farmer who can use them by the ton. But the home gardener or small operator who requires only a small quantity, perhaps not more than a few hundred pounds or less, can hardly ever find the chance to buy them at reasonable rates, and perhaps not at all without much inconvenience and effort.

The good woman who has a few plants in garden, greenhouse or conservatory; if she wants to use concentrated plant foods, has hardly any other way but to buy a small quantity of bone meal or "prepared flower food" in the nearest seed or supply store. For these purposes it is usually advisable to depend mainly on materials found on or near the premises for "home mixing." Sods cut from an old pasture, some old hotbed manure or any other old manure, some dried muck or other good loam, a little hen manure, ashes, bone meal, etc., all mixed together and repeatedly shoveled over will make a good plant soil and plant fertilizer. And for such purposes stable manure is not too dear to buy. The same may be said of stable manures for the average home garden.

For garden operations stable manure is almost indispensable, unless the land is frequently renewed by growing clovers or similar crops, with the help of superphosphate, potash salts, etc., and plowing these crops under. The first cost of stable manure in most cases is less than what the plant foods in it are worth at the regular prices of plant foods in commercial fertilizers. In other words, stable manure in itself is usually a cheaper source of plant foods than chemical fertilizers. Transportation and application, however, often add a disproportionate amount to the expense. If the woman gardener has to first buy the stable manure, and then hire some one to haul it to her garden, four or five miles, it may cost her a good deal of money to manure even a small home garden.

A neighbor of mine, who has a half-acre garden, bought a carload of pretty good old and fine manure from the Buffalo stock yards, and hired some one to haul it from the station (one fourth of a mile), and I know he got his plant foods cheaper and in better shape than if he had tried to enrich his garden with commercial fertilizers, either ready mixed or home mixed.

The farmer owning or running a large farm, however, has many days in the year when his teams and men are not very busy, and can be spared to haul manure from the next city, village or station without extra expense. He can usually get his plant foods on his ground in best possible shape, at less cost, than if he were to make use of chemical fertilizers only. Good old stable manure is hard to beat, either in cost or effectiveness; and yet by the judicious use of some of the mineral plant foods in their cheapest forms, and relying on clovers or other leguminous crops to secure nitrogen and supply the soil with humus or vegetable fiber, maintaining it also in proper mechanical condition, he can solve the big problem in the best and most economical manner.

PROCURE NITROGEN FROM THE ATMOSPHERE

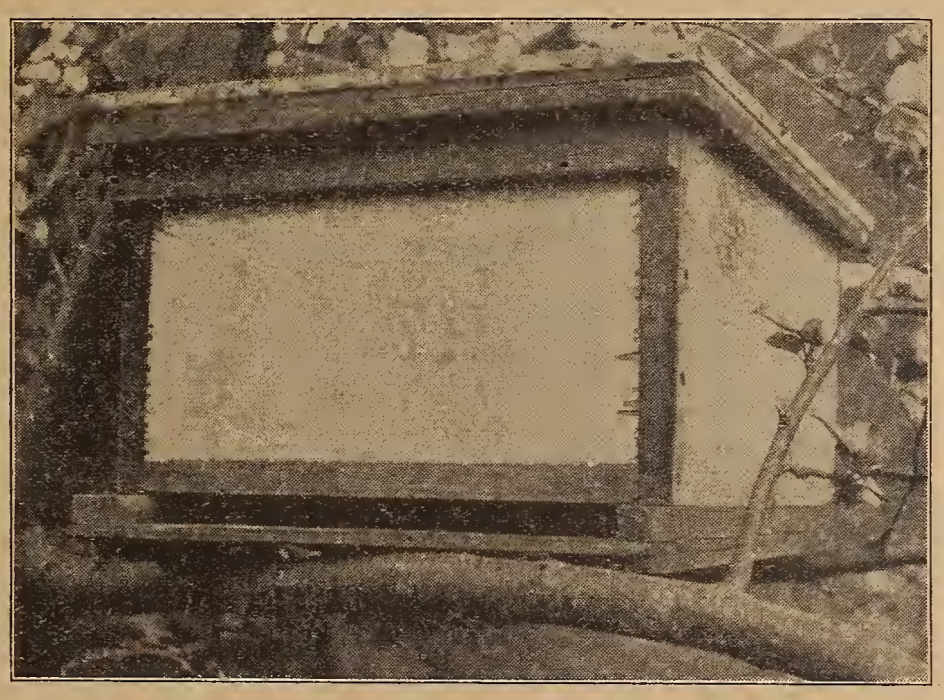
The folly of buying nitrogen at sixteen to twenty cents a pound, when it can be had free from the atmosphere through the action of the bacteria on the roots of clovers, cow peas, soy beans, vetches, etc., has often been pointed out. The heavier the growth of clover or cow peas, etc., the more nitrogen. Why should we buy that costliest of all plant foods? With fair applications of acid phosphate and potash (muriate being cheapest), and lime if necessary, we can raise large crops of these legumes, and thus not only maintain, but steadily increase, the fertility of the land. There are few farms in the North, South, East or West which do not produce all the manure needed for profitable farming if properly supplemented by mineral-fed clovers or other legumes. Here is the key to success.

In answer to the question how to mix and best to apply fertilizers, I can only repeat, "Why mix?" It takes less time, and is practically as good and as effective, to apply superphosphate and potash, with or without nitrate of soda, each separately by itself, than to first mix them together. This application is a simple matter. Anybody who can sow wheat or oats by hand, in the old-fashioned way, and as we sometimes still practise to this day, can sow muriate of potash, or nitrate of soda, or superphosphate. The last mentioned I prefer to dampen slightly before sowing, so the dust will not fly.

Notwithstanding the high value, comparatively, I place on stable manure, our good old standby, I still emphatically state that any farmer, even when he has a full supply of such manure on his premises, or available for his hauling at a near livery stable or private establishment, neglects a good chance in his farming operations when he fails to use superphosphate or possibly plain phosphate, the cheapest of all the real plant foods, in combination with his manure. There should be no pile of manure, no stable nor poultry house anywhere without an occasional application of the phosphoric fertilizer. Phosphoric acid is just the missing link in the fertility chain, the missing connection between farm operations and profits. It supplies the plant food with which stable manure is most scantily supplied. It rounds off and balances the proportions of the different plant-food elements. It removes the stable smell and saves the volatile ammonia, thus giving to the manure also a higher nitrogen content. We can afford to use phosphatic substances in free doses. If we add twenty-five or even fifty pounds of superphosphate to each two-horse load of stable manure, by scattering it over the manure in the stables, and over the manure piles as made, we may easily double the effectiveness of the resulting mixture, and make one ton do the work of two at an expense of twenty to forty cents for each two-horse load.

In many localities, especially in the South, raw rock, the undissolved phosphatic rock ground to a very fine powder, and often known as "floats," is easily obtainable, and may be used in place of the dissolved rock. The former is a plain phosphate, the latter a plain superphosphate. While the phosphoric acid in floats is not soluble in water, it gradually becomes so when mixed with fermenting manure or with acid soil. In the interest of good farming the use of these substances in this manner should be more encouraged and become more universal.

T. GREINER.



DECOY HIVE IN AN APPLE TREE TO CATCH SWARMS OF BEES

TO PREVENT LOSS OF SWARMS

Italian bees are said to be less inclined to go to the woods direct from the hive—that is, without first clustering—than black bees. How much truth there is in this I do not know from experience, because I have kept but few pure "blacks." A swarm of Italians will always cluster before taking "French leave." This is not true, though, of swarms that swarm out a second time after being hived. Such often "strike" direct for the woods.

The reason swarms will cluster before going off to the woods is that during the time of clustering they send out some of their number to find a suitable home. As soon as these "scout" bees have accomplished their object, they return and lead the swarm to its future home. Evidently, then, swarms must not be left hanging long after they have clustered.

A swarm that has once started to abscond is difficult to stop. I have failed in doing so, even though I threw water among them. Empty hives fixed for the reception of swarms should be kept in readiness when the swarming season opens. Then when a swarm issues it can be hived as soon as it has clustered, before the scouts return to lead it away.

The bees' instinct to not go blindly to the woods, but send some of their number out first to seek a home, can be taken advantage of by putting empty hives or boxes in the limbs of trees. The scouts will find them, and when a swarm makes one of them its home it can be put on a permanent stand at evening. I have put such "decoy" hives among apple trees, the fruit orchard being close to my apiary.

I believe such decoy hives will be entered more readily if there is a frame of comb in each. When there is only one comb in a hive the wax moth is not likely to deposit eggs in the comb.

If one cares to go to the trouble, hives can be put in trees in the woods. Neighbors' absconding swarms can be caught in this way. That is better than that such absconding swarms occupy hollow trees in which to store their sweets.

If one has not empty hives to spare, or there is danger of their being stolen in the woods, dry-goods boxes can be used. They must not be smaller than hives, for bees are disinclined to choose a small home.

When decoy hives are fixed in trees they should be put where they will be well shaded. If the sun can shine on them much they will be uncomfortably hot inside, and swarms entering them may leave again.

As swarms are more likely to stay if hives are ventilated, the cover at the end opposite the entrance should be raised a little, but not high enough so bees can pass. A piece of section will hold the cover high enough.

A decoy hive, when a swarm has occupied it, must be put on a permanent stand the same day. The bees of a swarm mark their new location the day after being hived. Then they always return to this place. From this it will be plain that if a swarm is left in a tree for several days before being put on a permanent stand, many bees will be lost to it. Of course, these bees may enter some other hives, but it is better that a swarm be not weakened in this way.

Because of their being considered too small by the bees, or for other reasons, swarms sometimes desert hives after having been hived one or more days. As already said, when a hived swarm comes out again, it may go direct for the woods without clustering. To prevent loss of swarms in such and other like cases, queens' wings should be clipped.

A swarm may start for the woods, but it will return again when the queen is not with it, as soon as the absence of the queen is discovered by the bees.

F. A. STROHSCHEIN.

HOW LARGE A FARM?

A subscriber in Connecticut, referring to the article in the issue of February 25th, asks for more definite information about the small farm there mentioned. He criticizes the figures given as being too indefinite. He will find, if he seeks far for farm accounts, that definite figures are not easy to obtain. Those given in the article make little claim to being definite, so far as showing the actual profit or loss of the business is concerned. They show only the actual sales and the labor bill. The original letter states what is not mentioned in the article, that no account is kept of the produce used in the family. This is a very considerable item, as one boarder is kept.

I do not think the statement warrants one in thinking that there is an actual profit of $351 for the year 1907, after paying all expenses. There are numerous items which must be paid for out of that balance, though most of them are probably small. The article contains all the figures which were given in the original letter. Perhaps Mr. Rooney can supplement them with further data.

I think few people at all familiar with farming would consider this statement as having much in common with a "fairy tale." It is merely a plain statement of very modest returns under very adverse circumstances. The writer of the inquiry says there are thousands of people anxious to take up the small-farm problem if it can be proved to them that they can get even a fair living. Now this is a very hard thing to prove with the exactness which our friend would like.

In the first place, no two farms of the same size are likely to yield the same return with the same management; secondly, no two men are likely to get the same return from the same farm, and thirdly, no one man is likely to get the same return from the same farm two years in succession. Furthermore, very few farmers keep as accurate records as such inquirers would like.

To the man living on salary, who must pay out good money for every cent's worth of food consumed, it is much easier to systematize these expenditures and know just how much every item costs. Farming does not demand such accurate bookkeeping, and only here and there a man is willing to spend the time needed to do it for the satisfaction of knowing definitely all the various items involved. Milk is saved as wanted—more to-night, less to-morrow night. Eggs are used as needed, vegetables are brought from the garden when ready, etc. This does not reduce the value of these things, but it makes it comparatively difficult to show to the city worker just what the saving amounts to.

In a word, it may be said that for the man who is willing to work with energy, who is willing to handle little money and to be content with small things, the small farm offers a safe chance of gaining a simple but comfortable living, with a much better insurance for old age, than most wage-earning positions in the city.

FRED W. CARD.

A BLUE MARK

in the square below indicates that your subscription *has expired.*

Please renew it promptly and we will send you, without extra cost, a wonderful mezzotone photograph of President Roosevelt, 13½ by 20½ inches, composed of 500 different pictures of our greatest living American. There is no advertising on it, and it is reproduced on the finest coated stock. The original photograph cost $1,000. Send your subscription promptly to FARM AND FIRESIDE, Springfield, Ohio.



IS IT SAFE

TO keep your will, your deeds and mortgages, your stocks and bonds, or your private papers and letters in a bureau drawer or an old trunk when you can send them to

THE SAFEST PLACE IN THE WORLD

at trifling expense? **The United States Government's Registered Mail Service** puts the largest and strongest safe deposit vaults in the world next door to every nook and corner of the country.

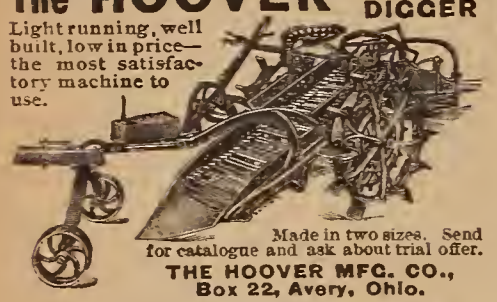
Safe Deposit by Mail is absolutely safe—convenient—inexpensive.

Write for the book on the safeguarding of property. It is interesting. You need it.

CARNEGIE SAFE DEPOSIT VAULTS
The Trinity Buildings
NEW YORK

The HOOVER POTATO DIGGER

Light running, well built, low in price—the most satisfactory machine to use.



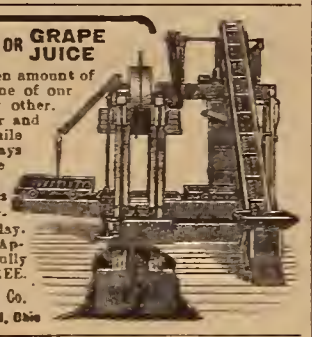
Made in two sizes. Send for catalogue and ask about trial offer.
THE HOOVER MFG. CO.,
Box 22, Avery, Ohio.

MORE GOOD CIDER OR GRAPE JUICE

can be made from a given amount of apples or grapes with one of our presses than with any other. The juice will be purer and bring higher prices, while the extra yield soon pays for the press. We make

HYDRAULIC Power Presses

in all sizes, hand or power, 25 to 400 barrels per day. Also Steam Evaporators, Apple-butter Cookers, etc. Fully guaranteed. Catalog FREE.



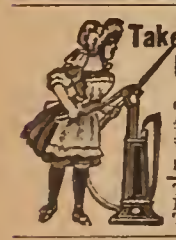
The Hydraulic Press Mfg. Co.
6 Main Street, Mt. Gilead, Ohio

BALES 15 TONS A DAY HAY

—often 18 and 20 tons. Such wonderful records are possible because our Gem Full Circle Steel Baler has a large feed opening, automatic brake device, small trip lever and long pitman travel. Either two or three stroke, and self-feed if desired. We will save you $25 or more in first cost and much more every year in repairs. Drop us a postal for prices and a free copy of our "Baler Book."



GEO ERTEL CO., QUINCY, ILL.



Take Off Your Hat to the MYERS

The only Glass Valve Pump—never sticks—never fails—always ready. Also HAY TOOLS, Barn Door Hangers, Hay Rack Clamps. Write today for Circulars and Prices.
F. E. Myers & Bro., 29 Orange St., Ashland, O.

THE PUMP THAT PUMPS

SEPARATORS from 1 to 10 horse, Steam and Gasoline Engines, mounted and Stationary, 1, 2 and 3 H. Tread Powers, 2 to 8 Horse Sweep Powers, Hand and Power Corn Shellers, Feed and Ensilage Cutters, Wood Saws, Steel and Wood Land Rollers.



THE MESSINGER MFG. CO., Box 9, Tatamy, Pa.



BIG MONEY
GROWING MUSHROOMS

Do you know, Mr. Farmer, that you or your son can make big money raising mushrooms? I have been in the business 10 years and give practical instructions free. Send for free book and particulars today.
JACKSON MUSHROOM FARM
8275 N. Western Ave. Chicago



Wheels, Freight Paid $8.75
for 4 Buggy Wheels, Steel Tires on. With Rubber Tires, $15.20. 1 mfg. wheels ¾ to 4 in. tread. Rubber Tire Top Buggies, $41; Harness, $5. Write for catalog. Learn how to buy direct. Repair Wheels, $5.50. Wagon Umbrella FREE. F. F. Boob, Cincinnati, O.

3 FEEDS TO THE ROUND SELF FEEDER 2 PROFITS IN HAY BALING



ADMIRAL HAY PRESS CO.

It is to your advantage to mention Farm and Fireside in writing to advertisers. Farm and Fireside folks get the very best attention.

Review of the Farm Press

WHEN SHOULD WE CUT THE GRASS

GRASSES contain the largest amount of digestible nutrients when in full bloom. In timothy, orchard grass, redtop and some others the nutrients continue to increase after bloom at the expense of digestibility and palatableness. Clover decreases in all but crude fiber after bloom.

Hay for the cows had all better be cut rather early, while that for the horses may, if timothy, be more mature, and if for market, still more mature, only so the seed will not shatter out in handling and baling. The farmer with a large acreage cannot cut it all when just in prime, but with judicious management most of it may be secured in a good condition. Usually the alfalfa comes first, followed by the red clover, on which I like to start cutting before it shows many brown heads, and finish by the time a third of the heads are brown. By this time the meadow hay for the cows should be cut, and by the time this is secured, that for the horses is in prime.

The corn and other crops need considerable attention at this time, and altogether it is a strenuous time, but hustle and thoughtful action will mean dollars and comfort next winter. To have everything in readiness, to have two sets of knives for the mower all sharpened at the beginning, is a help. Never use a dull knife, keep the bearings of the machine tight and use plenty of good lubricating oil, thereby saving horse flesh, machine wear and your temper. In sharpening the mower knives I save a hand by making the gasoline engine turn the grindstone. —L. W. Lighty in The National Stockman and Farmer.

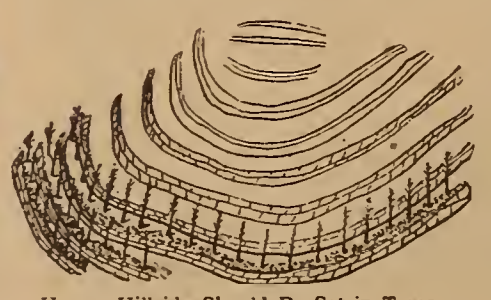
CLEANING UP NEW GROUND

There comes a time each year when the average farmer begins to think about cleaning up new ground. Those of them who are fortunate enough to have any left, and those who live in hilly countries, will generally find bushes and briers growing along the hollows and fences.

This is the time to think of the wanton destruction of our forests. Those great oaks, ash and walnuts were but saplings once. While we do not indorse the leaving of trees to grow in cultivated fields, every nice-shaped sapling of a variety of value as a timber tree should be left to grow.

There are thousands of small plats of timber, where a great many of the trees will measure two feet and some of them thirty inches at the stump. These, thirty years ago, were saplings of four to ten inches at the stump—oak, ash and hickory.

In Kentucky there is a grove of locusts, many of them fifty feet tall and twelve



How a Hillside Should Be Set in Trees

and fourteen inches at the stump. These are on a piece of land lying alongside a country road, and valued at one hundred dollars an acre.

The seed were sown thinly, broadcast, then thinned to stand four to six feet apart.

The timber is to-day equal to ten times the value of the land, or one thousand dollars an acre.

If each farmer who owns land suitable to the growth of forest timber should set apart one twentieth of his land to forestry, in time there would be timber to spare.

A great many cliffs and hillsides along our little rivers are fit for little else, and hill land that is very stony may be planted to post-timber trees with much profit.

The sketch accompanying this article gives an idea of a good way to set a hillside to trees. The stones should be piled in rows, the width of which should correspond with the grade of the hill—if very steep, four or five feet; if not so steep, six, eight or ten feet between the rows.

The trees should stand about four feet apart in the row when the rows are six feet apart.

Black locust and catalpa are the most profitable for posts, the locust to be preferred, as the manner of growth is much smoother and the quality of timber the very best.

The seeds of either may be had of the nurserymen. They can be sown in drills in the garden and cultivated two seasons, by which time they are from four to six feet tall and ready to transplant to the permanent rows.

This planting of trees should be given earnest consideration by all who own land, as there is no more profitable investment to be made than the planting of trees either for timber or fruit.—The American Farm World.

AXES GOOD AND BAD

The ax may be divided into three parts—the cutting edge, the eye, or handle hole, and the back, or poll. Except in all-steel axes, the edge only is of steel, the eye and poll being of iron and the cutting edge welded into it. Now, in the way this is

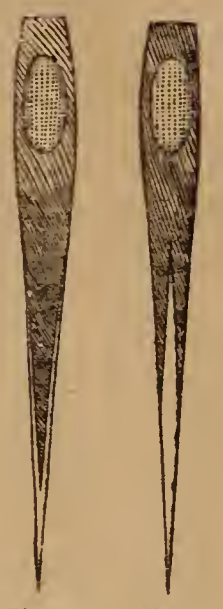


Fig. 1 Fig. 2

welded, as well as in the temper and quality of the steel, is the difference between a good ax and a bad one.

In a cheap ax, the iron part is shaped thus, Fig. 1, and the steel edge is split at the back and lapped over the iron point. The result is that once past the point where the iron front touches the steel back the ax has steel sides, but an iron point or edge, which of course makes it useless when half worn out. This is called an overcoat ax, and as steel is worth about eighteen cents a pound and iron about four cents, can be sold cheap.

The good, fair-priced ax, on the other hand, has the front of the iron split and the steel back of the cutting edge dovetailed into it, Fig. 2. Thus it can be used even when ground back nearly to the eye, as though the sides are iron, the edge is steel. It is easy to tell the difference in the two sorts; looking at an overcoat ax you can see that the line where the iron and steel meet on the face is close up to the eye as shown.

A dovetailed ax, on the other hand, has the meeting line much nearer the cutting edge. Most new cheap axes have an imaginary line, while the japanning on them stops on the blade, to deceive the unwary. Therefore, do not take any notice of the flat, but look closely at the top and bottom of the blade, where the line of the lap can usually be clearly seen.—R. Kaleski in The American Cultivator.

STARTING TREES RIGHT

It saves wood, trouble and expense later. A one-year tree cut back usually puts out shoots from the ground to the top.

During the first summer it pays to go over each tree every two or three weeks, rubbing off, while young and tender, all shoots not required for the permanent head, for which are selected four or five strong shoots near the top, forming a well-balanced, open head.

A better plan is to pinch back the surplus shoots when two or three inches long, leaving a few leaves to shade the body during the first summer; these have a tendency to make the body strong and stocky, and by keeping well pinched back, little sustenance is taken from the rest of the tree. The next spring they are cut off.

Always remove entirely, as fast as they appear, all shoots coming from below the ground. Two-year trees are treated in about the same manner as one year, so far as rubbing off or pinching back is concerned. Usually a two-year tree has the head already formed, and a judicious thinning of the shoots growing from the shortened branches of the previous season's growth, so as to maintain a balanced and well-shaped head, is all that is required.

The second spring after planting, the new growth of a one-year tree should be shortened one half; the best time for pruning is early spring, shortly before growth starts.

A fertilizer is frequently advisable, but under no circumstances should it be placed in the hole when planting the tree. Many trees are killed or seriously injured by strong fertilizer coming in direct contact with the roots. After the tree is planted, distribute the fertilizer evenly near the surface of the ground and cover with about two inches of earth to hold in place; let the rains gradually carry it to the roots in a form that can be assimilated.

Mulching with straw, leaves or rough manure, four to six inches thick and extending a foot beyond the roots is of benefit to spring-planted trees, but is not good for fall planted, as it is a harbor for mice which do a great deal of damage during the winter. However, a dust mulch maintained by frequent and thorough pulverizing of the soil is cheapest and best. —Stark Bros. in The American Cultivator.

THE SHAPE OF THE SILO

When silos first came into use in this country they were invariably built rectangular or square and shallow. Then it was necessary to weight the silage down to keep it from spoiling. Later it was learned that greater depth would remove the necessity of weighting, but still the silage in the corners would spoil because it could not be packed tight enough to exclude the air. The next improvement was that of boarding across the corners, making an octagonal interior. This was better, but not yet successful, and the idea of the round silo was gained, thus eliminating all corners or air space for silage to spoil, and the losses incurred by the air coming in contact with the contents of the silo were reduced to a minimum.

Less lumber is required to build a circular silo of like capacity than a square one, and the material need not be so strong, to prevent bulging and spreading apart, so that the circular silo is not only the more efficient type, but should be a great deal cheaper. For these reasons the circular silo has become more popular, until at the present time we seldom see any other form being constructed.—Hugh G. Van Pelt in Kimball's Dairy Farmer.

FEEDING VALUE OF COW-PEA HAY

The feeding value of cow-pea hay has long been recognized, as it has been used extensively for all kinds of stock in the Southern states. With a fair number of ripe peas in the hay it has been found to be satisfactory when fed alone to stock at work, and can be used very successfully as a maintenance ration for horses, mules, cattle, sheep and even hogs. The farmers in the sugar-cane districts of Louisiana make a very extensive use of cow-pea hay for their work stock, it being practically the only roughage used. It is generally claimed that horses or mules at work stand hot weather better when fed cow-pea hay than when fed a grass hay and corn. The difference in the appearance of the animals is also very much in favor of the cow peas.

In a three months' test at the North Carolina Agricultural Experiment Station the rations fed two high-grade Percheron mares, used as a team and receiving the same care and shelter, differed only in the use of ten pounds of cow-pea hay in one and the same quantity of wheat bran in the other. The horse fed bran just held its own weight, while the one fed cow-pea hay gained a little. The cow-pea ration was five cents cheaper in daily cost.

At the Arkansas Agricultural Experiment Station two three-year-old steers were fattened on cow-pea hay and cotton seed in a feeding trial lasting ninety days. The daily ration consisted of thirteen and three fifths pounds of cotton seed and twenty pounds of pea hay. The average daily gain was three pounds for each steer, and the cattle were in excellent condition during the entire trial. The profit realized was $21.30. The Tennessee Agricultural Experiment Station found that six to ten pounds of cow-pea hay could be substituted for three to five pounds of cotton-seed meal in beef production. This indicates that this hay can be utilized to advantage in place of corn and cotton-seed meal when these feeds are high priced.

In the production of milk and butter, the Tennessee Agricultural Experiment Station reports that one and one half pounds of chopped pea hay is equivalent to a pound of wheat bran, and three pounds of chopped pea hay to a pound of cotton-seed meal. With bran valued at twenty dollars a ton, a yield of two and one half tons of cow-pea hay would mean a return of forty dollars an acre for the crop, based on its feeding value. Cow-pea hay is equally as good as bran for producing a flow of milk.—Farmers' Bulletin No. 318.

Fruit Growing

BY SAMUEL B. GREEN

PLUM ROT

PLUM rot is a destructive disease which affects cherries and peaches as well as plums. In this disease the fruit begins to rot when nearly full grown, and then dries up and remains on the tree over winter. The source of infection for the following year is found in the spores from these mummified fruits. These are produced in the spring when warm weather comes. The remedy is to get rid of this source of infection, and in thickly settled neighborhoods where plums are generally grown on a large scale it is important to secure united effort in this matter.

It is a good plan, where practicable, to gather the dried fruit and either burn it or bury it at least one foot deep in the ground. Another treatment is to spray the trees in the spring or the latter part of winter before the buds have opened with a strong Bordeaux mixture. This should be made with the ordinary formula, but with only half the amount of water that is commonly used.

Where orchards are sprayed in winter with the lime-and-sulphur compound this disease is seldom abundant, as the mummified fruits, if thoroughly covered with this fungicide, are prevented from producing the spores that spread the disease. It is important that the spraying work be done in a thoroughly careful way and that every part of the tree be moistened with the fungicide.

◈

DWARF APPLES

T. H. Y., Mitchell, South Dakota—I think there is really very little opportunity to use dwarf apples to advantage in commercial orcharding in this country. There is no objection to using them in a small way in gardens, where their interesting appearance will make up for their lack of fruitfulness. The first cost of dwarf apples is much more than those worked in the standard way. I recently bought several dozen, and was obliged to pay thirty-five cents apiece, while I could have bought standard varieties of apples in a large way for commercial planting at about ten dollars a hundred.

I know of only one nursery concern in this country that has them for sale. Dwarf apples are so made by grafting common apples on the roots of a dwarf apple that is a native of Europe. They are seldom grown in America, but in Europe are much used in gardens. Apple trees may be dwarfed by severe pruning back each year and by root pruning.

◈

MAKING RAISINS

M. L. H., Bradford, Pennsylvania—Raisins are made from only certain kinds of grapes that seem to be especially adapted to this purpose. Of course, it is possible to dry any grape so that it will keep, but many kinds do not have sufficient sugar in them to be well adapted to this purpose.

The making of raisins in this country is confined almost entirely to portions of California and only in the hotter sections. The great grape section is about Fresno, in Fresno County, where enormous areas are devoted to raising the raisin grape. These are gathered as soon as they are ripe, and spread on thin trays in the sun until they are sufficiently dry for packing. It is a very simple process in that section, for the reason that the weather is warm and the air dry. The class of grapes from which raisins are made originated in Europe and are not adapted to the section east of the Rocky Mountains.

The nearest approach, perhaps, to any raisin grape that is adapted to Pennsylvania is found in the Agawam and Lindley. Formerly there was a large demand for seedless raisin grapes, and it resulted in a great call for the Sultana and Thompson Seedless raisins. This, however, has been largely done away with by the introduction of mechanical processes for taking seeds out of raisins.

◈

TIME OF BEARING OF FRUIT TREES

J. M. G., Upper Alton, Illinois—Apples generally come into bearing four or five years after being planted; plums in two or three years; peaches in two years, and pears about the same as apples. However, the time of bearing of fruit trees is modified greatly by the soil in which they grow. Trees growing in rich black soil are generally slow in coming into bearing, while on land where the wood growth is poor trees will often come into bearing very early.

There is a mistaken idea very general among beginners in fruit growing that a large amount of manure in the soil is necessary to make trees productive. Quite the contrary is the case, although plenty of plant food in the soil is absolutely necessary to get fruit of desirable quantity; yet often when trees are grown on land that is exceedingly rich in plant food they will fail to come into bearing as soon as on poorer soil.

The time of bearing of fruit trees is also modified very much by the varieties. Some varieties, like the Duchess of Oldenburg, come into bearing very early, while others, like the Northern Spy apple, in some sections are very tardy in this respect.

About twenty years ago a variety of apples known as the Peerless was sent out by a Northern nursery concern which felt it had every reason to believe the variety was worthy of introduction, but the trees had not been tested as root-grafted trees. It has been found that large orchards of this kind that have grown ten or twelve years scarcely show a sign of coming into bearing.

◈

TREES FOR QUICK EFFECT

Mrs. E. R., Limerick, New York—In the illustration shown in FARM AND FIRESIDE of November 25th, where a residence is shown before and after planting out with trees, the varieties of trees were as follows: For the main boulevard, white elm, which were about thirty feet part. On the lawn, one white elm, one Russian golden willow, one European birch, one Russian olive, two soft maples. The reason why the trees in this particular case made such a large growth was that they were thrifty, vigorous trees and were well planted in good, rich soil.

After the trees had been planted one year, a hole about three feet square was dug by the side of each, about three feet from the trees, so as not to cut any of the larger roots. Into this hole was put about one wagonload of stable manure. The following year the roots of the trees found this manure and made a tremendous growth. The shrubs were treated in a similar way, and consisted of vigorous-growing species, such as Spiræa Van Houtii, golden elder, high-bush cranberry, hydrangea, peonies, Missouri currant, lilac, red-twig dogwood and golden syringa. These trees and shrubs were well watered and kept growing without any hindrance throughout the season.

There is no secret about the matter, and the chief reason why such growth was made is that they were properly cared for.

◈

GALLS ON APPLE TWIGS

C. H. A., Faribault, Minnesota—I have looked over the twigs of Patten's Greening apple with gall-like swellings on them near the buds and sometimes involving them. I think I have never seen this trouble before. The injury looks as if it was done by some fungus.

Professor Freeman is also of the opinion that it is probably caused by some fungus, but as yet is not ready to say definitely.

Should I learn anything to your advantage in regard to this matter, I will refer to the matter again. It does not seem to be anything to cause alarm at this time.

◈

NURSERY INSPECTION

Under the Ohio Nursery and Orchard Inspection Law, every nurseryman, or any other person in the state engaged in growing trees, shrubs, plants or vines for sale, must, before July 1st, file application for the inspection of such stock with the Ohio Department of Agriculture. The disposal of uninspected stock, either by sale or gift, renders the owner liable to a heavy fine. These inspections are made by the Division of Nursery and Orchard Inspection, and free of charge when applications are filed before July 1st.

For application blank and further information address N. E. Shaw, Ohio Department of Agriculture, Columbus, Ohio.

◈

SPRAYING APPLES

C. W. O., Balaton, Minnesota—There is no spraying solution that is effective in preventing blight of apple trees, and we do not recommend spraying for this purpose.

In the case of apples, the principal object in spraying them in this section is for the prevention of the codling moth. This is the insect which generally works into the center of the apples through the blossom end, and causes what is known as wormy apples. The best treatment for this insect in this section is to spray the trees as soon as the flowers have fallen and while the fruit yet remains erect on the branches, so that the solution will get into the blossom end. I do not think it advisable to spray before the blossoms come out.

The spraying mixture to use for this purpose is made by adding one pound of Paris green to one hundred and twenty-five gallons of water.

Gardening

BY T. GREINER

MAKING ARSENATE OF LEAD

A Michigan reader wants me to give again the formula for making arsenate of lead. This formula has been repeatedly published in these columns, as well as in garden books and station bulletins. I have only once in my life undertaken to prepare my own supply from the ingredients—namely, acetate of lead (sugar of lead), eleven ounces, and arsenate of soda, four ounces—and dissolving each of these in water, then mixing the two solutions. The white paste which forms as a precipitate is arsenate of lead, and undoubtedly the safest and most effective of all arsenical poisons that can be used for leaf-eating insects. I do not say it is the cheapest. But it is the only one I know of that will prove a sure cure for a number of insects, especially the rose chafer or rose bug and the yellow-striped cucumber beetle, and possibly the flea beetle, all of which are hard to kill with Paris green, London purple or most other arsenical poisons.

On the whole, however, I hardly advise my friends to buy the ingredients and make their own lead arsenate, unless large quantities are needed and one can get the ingredients at wholesale rates. When you buy the ingredients in small quantities, a few ounces or so, the prices you will have to pay to the druggist are so high that your home mixture will cost you more than what your seedsman or the supply dealer will charge you for the ready-made paste. If you cannot get it near you, you will find the advertisements of dealers in these goods in your agricultural or horticultural paper, and you can send for the quantity you need, may this be five pounds or one hundred.

The farmer will need it for spraying his potatoes for potato beetles and flea beetles, and no better poison can be used for these purposes. If you have nothing but a home garden to look after, one pound may be sufficient. Its first cost will hardly be more than twenty-five cents if you can get it at a store. If you have to buy it at a distance, the cost of mailing or expressing will have to be added. And why don't you "make it hot" for your member of Congress, swamp him with letters and postals, until you make him cast his influence and his vote in favor of a parcels post, so that we can have such things sent to us at a reasonable cost for transportation?

◈

MOLES IN THE GARDEN

One of our readers in Iowa is anxious to get rid of "what he thinks is the mole," which works just under the surface of his lawn and strawberry bed. Another of our friends sends me a "sure recipe" for getting rid of the little burrowing animal in the corn field. He says: "Tar your seed corn as is often done to prevent the depredations of crows and blackbirds, and moles will not touch it." Still another reader talks about poisoning the mole.

One thing we may take for granted—namely, that the mole does not eat corn nor any other seeds. It often tunnels underneath the rows where corn is planted, especially if fertilizer was applied in the rows, not in search of the corn, however, but in search of the worms, grubs, etc., which it finds there. Moles live mainly on earthworms, grubs, etc.

I do not know whether it is feasible to poison moles by means of little pieces of raw lean beef dropped into their runs opened here and there for that purpose. If a mole finds a piece of meat while yet fresh and sweet it might possibly eat it. The best result we could expect from tarred corn is that the moles are repelled by the smell, and avoid the hills, or possibly the whole patch. But the only practical way of getting rid of them is by means of trapping them. Every seedsman and every hardware store keeps an assortment of mole traps, charging all the way from twenty-five cents each up to a dollar or two.

The main point in any attempt to clear a piece of ground of moles is persistency. It cannot be done in a day or two. It may take weeks, even months. But if good traps are skilfully and persistently set, the task can be accomplished. You have to fight it out on this line if it takes all summer.

◈

On one occasion Sir John B. Lawes expressed the opinion that if the plants which furnish human food should all be left without human care and culture for fourteen years, there would be hardly any of the cultivated plants fit for human food. *

GEM JUNIOR Safety Razor

The Gem Junior with the New Bar does the hand-work of the barber, tightens the skin and raises the hairs vertically, giving a perfect, close, delightful shave with no scraping. Just lather and shave—that's all.

New frame with Bar sent to present users of the Gem Junior Safety Razor on receipt of 25c. No exchanges.



$1.00 Complete with 7 selected blades, frame, shaving and stropping handle, in handsome case.

Separate set of 7 Gem Junior Blades 50c

Each Gem Junior blade is absolutely guaranteed to shave better than any other regardless of name or price. Each bears the name. *Beware of imitations.*

A storiette "The Gentle Art of Self Shaving" including a full course in shaving, sent Free.

GEM CUTLERY COMPANY
34 Reade Street New York

London, E. C.: 35 Aldermanbury
Paris: 24 Rue de Constantinople. Hamburg: Pickenhuben 4

We are the original Modern Safety Razor Makers.

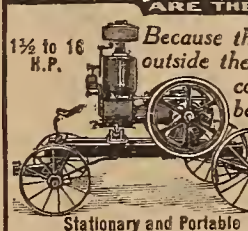
Catalogue of
Embroidery Designs
By Evelyn Parsons

This catalogue comprises thirty-six illustrated pages with designs of every variety of correct embroidery, including stocks, belts, collars, cuffs, waists, hats, parasols, lingerie, baby's layettes and dozens of other things—by far the finest designs for embroidery we have ever issued.

Sent to any reader of FARM AND FIRESIDE on receipt of three 2-cent stamps. Address

Embroidery Department
Farm and Fireside, 11 East 24th Street
New York City

Stickney Gasoline Engines ARE THE BEST



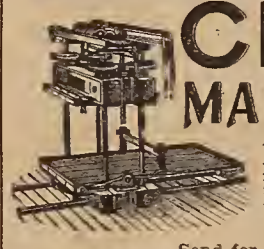
1½ to 16 H.P.

Because the Electric Igniter is outside the cylinder where it is cool and the spark can be seen, because of our modern cooling system and because of 57 reasons told in Stickney's Free Catechism.

Stationary and Portable

We have thousands of engines in successful operation because of our years of experience in making engines of the best material and most accurate workmanship. Send for Catalog

Charles A. Stickney Company
ST. PAUL, MINN. - BOSTON - KANSAS CITY MO



CIDER MACHINERY

We have had 35 years' experience in furnishing outfits for both Custom and Merchant Cider Mills.

OUR GOODS ARE THE STANDARD.

Send for catalogue.

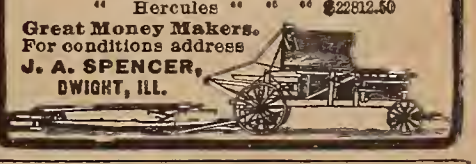
BOOMER & BOSCHERT PRESS CO.,
99 West Water St., Syracuse, N. Y.

HAY PRESSES

Guaranteed enough better than the best of other makes to earn 6 per cent interest as follows, or no sale.

The Alligator 6% Int. on $13687.50
" Favorite " " " $18000.00
" Hercules " " " $22812.50

Great Money Makers.
For conditions address
J. A. SPENCER,
DWIGHT, ILL.





WAGON SENSE

Don't break your back and kill your horses with a high wheel wagon. For comfort's sake get an

Electric Handy Wagon.

It will save you time and money. A set of Electric Steel Wheels will make your old wagon new at small cost. Write for catalogue. It is free.

ELECTRIC WHEEL CO., Box 96, Quincy, Ill.

ORNAMENTAL WIRE AND STEEL FENCE



Cheaper than wood, combining strength and art. For lawns, churches, cemeteries Send for FREE CATALOG. Address The Ward Fence Co. Box 125 Decatur, Ind

The UNIVERSAL MAGAZINE the most interesting. Send 25 cents for one year's subscription and 12 beautiful pictures. Address, HALE PUBLISHING CO., 5560 Vista Avenue, St. Louis, Mo.

WORLD'S STANDARD ASPHALT ROOFING

Will save you 50%. Write for free booklet—"A Square Deal"—Prices and Samples.

Elaborated Ready Roofing Co.
4401 La Salle St. Chicago

"THE OLD RELIABLE"

DIETZ LANTERNS

THERE ARE NONE "JUST AS GOOD"
WHEN YOU BUY A LANTERN INSIST ON A "DIETZ"
MADE BY R. E. DIETZ COMPANY NEW YORK
Largest Makers of Lanterns in the World
ESTABLISHED 1840
PIONEERS AND LEADERS

ANCHOR FENCE
CATALOG FREE
Write at once for our new, money-saving plan, tells how to buy the best farm and ornamental fence at the lowest possible price, saving all jobber's and dealer's profits. We are saving thousands of dollars to fence buyers every year. Special agents' proposition. Write—
Anchor Fence & Mfg. Co.
Sta. D, Cleveland, Ohio

Cheap as Wood.
We manufacture Lawn and Farm FENCE. Sell direct shipping to users only, at manufacturers' prices. No agents. Our catalog is Free. Write for it to-day.
UP-TO-DATE MFG. CO., 971 10th St., Terre Haute, Ind.

FRESH EGGS 12¢ A DOZEN
Buy fresh eggs now at 12 cents a dozen, put them up in Wright Egg Preservative, and sell them next winter at 40 cents a dozen. They will be just as fresh then as when put up. Write for full particulars to-day. We will prove just what we say. Agents wanted.
White-Thomas Co., Dept. P, Rochester, N.Y.

MY SON!
The rapid advance in Farming Lands is making many RICH.
AITKIN COUNTY, MINNESOTA,
offers you a chance to become independent, it's in the sheltered Clover Belt between the Twin Cities and Duluth, in MILLWARD SETTLEMENT, a rich farming and dairying country. Write Land Ag't C.R.I.&P.RY., 834 Wolvin Bldg., Duluth, Minn. for Maps, Prices and Terms.

THE LARGEST AND BEST LINE OF
WELL DRILLING MACHINERY
in America. We have been making it for over 20 years. Do not buy until you see our new Illustrated Catalogue No. 15. Send for it now. It is FREE.
Austin Manufacturing Co., Chicago

NORTH
TELEPHONES specially adapted to farm lines. Sold direct from factory. FOR FARM LINES Book of instructions how to organize farmers and build line free. Write for Bulletin No. 301. The North Electric Co., Cleveland, O. Kansas City, Mo. Dallas, Tex.

WELL DRILLING Machines
Over 70 sizes and styles, for drilling either deep or shallow wells in any kind of soil or rock. Mounted on wheels or on sills. With engines or horse powers. Strong, simple and durable. Any mechanic can operate them easily. Send for catalog.
WILLIAMS BROS., Ithaca, N. Y.

ORNAMENTAL FENCE
25 DESIGNS, ALL STEEL
Handsome—cheaper than wood—more durable. Special prices to churches and cemeteries. Don't buy a fence until you get our free catalogue.
Kokomo Fence Machine Co.
427 North St., Kokomo, Ind.

DON'T RUST FARM FENCE
Sold direct to farmers at manufacturers' prices. Catalogue free. Freight prepaid.
THE WARD FENCE CO.
Box 867 Decatur, Ind.

GAPES AMONG CHICKENS!
Write for my free booklet today. It tells you all about the origin of this pest and our Rex Gape Worm Extractor. This is the greatest cure ever known and we fully guarantee it. J. S. KLOCK, Dept. E, Urban, Pa.

PATENTS SECURED OR FEE RETURNED.
Free report as to patentability. Illustrated Guide Book, and List of Inventions Wanted, sent free.
EVANS WILKENS & CO., WASHINGTON, D. C.

It is to your advantage to mention Farm and Fireside in writing to advertisers. Farm and Fireside folks get the very best attention.

Poultry Raising

WHY SOME FAIL WITH YOUNG TURKEYS

FAILURE with turkeys may be caused by many things, but there are three things which are more often the cause of failure than anything else. First, when the breeding stock is poor they will usually lack vitality and good constitutional qualities; second, I find that lice give many turkey raisers great trouble, which may not be discovered even on close search; and third, turkeys are often improperly fed.

Corn meal made into bread, and curded milk, with hard-boiled eggs, do not make a good ration. However, the eggs may be very good for a week or ten days.

I have had very good success with feeding a bread made of equal parts, by weight, of oat meal, corn meal and wheat middlings mixed with sour milk. It is also well to add a little salt and baking soda when mixing it. It is considerable work to make this, especially if you have a large flock, but I find that it makes a good feed. It is very necessary to feed young turkeys properly to get the best results.

There are many prepared chick foods on the market which can be used to advantage. Some of them consist of cracked corn, cracked wheat, hulled oats, millet, Kafir corn and various other seeds; sometimes cracked peas are used in them. I have found these mixtures to give very satisfactory results and they can be fed until the turkeys are old enough to eat cracked corn and wheat. Every few days I put a grain or two of black pepper in a little dough and feed them, and I think it is very healthful for them.

I have learned that when proper care and attention are given the turkeys it is seldom that there will be any failures.

R. B. RUSHING.

POULTRY ABOUT THE FARM

One of the most serious objections to poultry on the farm is the fact that at some seasons of the year there will be crops near the buildings which the hens will get to and injure materially. I have before now been out in the country in the fall of the year when grain was in the shock and seen from one to half a dozen hens right on the top of every shock picking away for dear life. Now and then a man will say, "Let them work at it. They have to have enough to eat, anyhow!" But he always says it with a mental "I'd like to wring your necks!"

All this may be avoided by having fences about the poultry houses, so that the hens may be shut in. These yards should be large enough so that the hens may have the run they need to keep them in good condition, or they will drop off in egg yield. It may be necessary, too, to feed them a little better than when they were out on the fields, as they may be at other seasons of the year. A better variety of food will prevent any decrease in egg production.

It may be urged that the expense of such a fence is too great for the ordinary farmer to think of; but suppose we measure up the loss where a lot of hens have full swing on a field of oats or wheat or other grain waiting to be taken into the barn. How long would it take to lose grain enough to pay for the fence, and more, too?

While at this fence building it is a fine plan to shut the hens away from the farmhouse. We all know how much annoyance a lot of hens are if they can come right up to the house. V.

FROM MY EXPERIENCE IN RAISING POULTRY

Not long ago I read an article on poultry raising, which the editor of the poultry journal in which it was published declared was one of the best he had ever read. I happened to know the party who wrote it, and knew that he never had raised a hundred chickens in his life. I asked him where he got his knowledge, and he said "from catalogues and a couple of books."

The article was very fanciful and plausible, but not practical, as I know from long experience. He advised the purchase of a lot of machinery, commercial foods, and various sorts of drugs, which I have seen proved useless over and over again. In poultry raising, as in the raising of any other stock, it is the management that counts, not the machinery. One needs some conveniences, some articles that save labor and expense, but I can tell the various parties who have written me nearly a hundred questions concerning this matter that no man or woman can buy a lot of poultry hatching and raising machinery and with them alone make a success of the business.

To the query of the Kentucky subscriber as to how long a time would be required for an ordinarily bright person to become expert in the use of hatching and brooding machinery, I can hardly give a definite answer; but I will say from three to ten years.

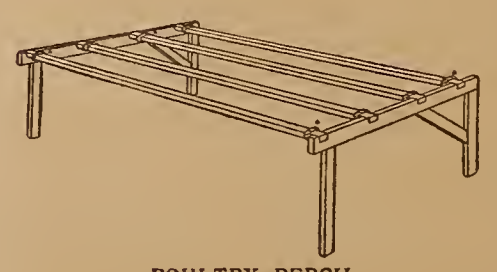
A person will make a phenomenal hatch one time and a complete fizzle the next. Never have I known any person to be generally successful, unless he operated in a building built for the purpose. And even then there are many uncertainties about it. The losses of incubator-hatched chicks are too great to make that method uniformly profitable if one counts the cost of machinery, heat, attendance and food. The most successful poultry raisers I know are those who live on the farm and those who live in the suburbs of towns and have a special trade—a lot of private customers who take their output at good prices.

Contrary to the general opinion of people who dream of raising poultry, as well as a great many who are actually raising poultry, it is not the winter or very early spring-hatched chicken that is the most profitable. It may bring the highest price, but it has cost too much to leave any profit. The way to find what a chick costs is to begin with the egg. If one sets two hundred eggs and raises only fifty chickens he has lost the market price of one hundred and fifty eggs, and he must add that to the cost of the fifty chickens, together with all the other expenses, because there is no by-product to help cover these expenses. If one can obtain twenty to thirty cents a dozen for his February eggs, the cost of his fifty chicks mounts up rather high. I have always found it safer and more profitable to hatch when the price of eggs is down, then give the chickens such care that they will grow rapidly and yield a profit worth counting. FRED GRUNDY.

INSECT-PROOF POULTRY PERCHES

The illustration shows how perches may be constructed in such a manner that they will be practically insect proof. The lice that do the most harm to the hens are the little red, fat fellows that crawl into the cracks in the daytime and come out at night. In many cases they fairly eat the hens alive, and the egg production falls off to an alarming extent.

The perches here shown may be built of any material and supported in any manner, but the perch must be smooth and should not be so located that the insects may crawl from the side of the house onto



POULTRY PERCH

the hens. The ends of the perch are wrapped with any old rags, as shown at A A A A, or a piece of heavy felt may be used if it fits the perch closely. The rag or felt is saturated with oil, grease or any of the liquid lice destroyers; coal oil will do very well. The rag or felt must be inside of the support that carries the perch, so the lice will be compelled to cross it in order to reach the hens.

In most cases all that is necessary to try the device would be to wrap the cloth on the perch. Where old perches are used it will be necessary to pour oil or some other lice killer into all cracks that may be in the perch, to destroy the lice that may be in them. J. E. B.

PIN FEATHERS

Do not have any eggs on hand that are more than a week old.

For your own peace of mind, fence the hens away from the house.

The cleaner you can keep your houses this weather, the freer the hens will be from insect pests.

Now, while there is plenty of dust in the road, save some for the days when the dust will be frozen hard as a rock.

When the chicks will weigh two or two and a half pounds let them go to market. They will bring more and save a lot of feed.

Roosts all on a level are best. Then there is no strife for the highest places, as there is in houses where some perches are above the rest.

It pays to take some pains to find the nests in the grass and out in the grain fields before the machines run over them and spoil a lot of good eggs.

Have you weeded out the roosters? You will have no more use for them this fall. By another spring you will have some from this spring's crop.

Potatoes boiled and mashed, and if possible mixed with milk, make a fine feed for the biddies. Not every meal, but once a day. This makes a splendid change.

It seems as if the hens might find all the bone material they need at this time of the year; but just try them now and then with some, and see if they do not devour it greedily. As long as that is so it will pay to provide it. E. L. V.

CLOSELY YARDED HENS REQUIRE SUCCULENT FOOD

Hens that have been fed on a grain diet exclusively for some time will sooner or later begin to show the effects of sameness of diet. They require and must have some vegetable or green food. Even if it is only of a small amount, it will have a beneficial effect. They will be more thrifty and will more easily digest their other food, and consequently will lay better.

If you throw an apple into the pen to a flock of hens that have been closely confined and fed on grain alone, you will observe how quickly they will eat it. These same hens, if turned loose into an orchard, after a few days would not touch an apple, though the fruit might be very plentiful. An apple, as well as other kinds of green food, is a luxury to fowls only when they are closely yarded or housed and fed principally on grain.

There is little nutriment in apples, cabbage, potatoes and other green foods, but they serve as a succulent and change of diet, and for this are a great help. Clover and alfalfa stand at the head of all green stuff for hens, but even with this some vegetables may be given to advantage. Grain alone for hens, even if it were best, makes an expensive ration these times, and the aims of the poultry farmer should be to utilize as much of the waste of the farm and house as possible.

In getting a good yield of eggs the main factors are fresh-cut bone and meat, clover and vegetables, a dry, comfortable house and plenty of exercise.

V. M. COUCH.

PROVIDING GREEN FEED FOR WINTER

I wonder if those poultry raisers who have alfalfa or clover know that the last cutting, or a cutting just before frost, when the plants are yet tender, if well cured and preserved, makes the best kind of green feed for chickens in winter? It exceeds all other cuttings. As chickens require something of this nature in winter, if they are expected to lay, nothing better could be given them.

Cut the hay quite fine with a cutter—or if you have no cutter, it can be shredded somewhat by hand—put it in a pail, and pour scalding water over it. It is well to have a cover for the pail, so the steam can be kept in. Let it stand for a few hours until it is well soaked, then mix with bran, and pour more hot water over it, so that it forms a stiff mass. Feed it to the chickens while yet a little warm, and they will eat it with a raving appetite. Such a mash fed two or three times a week during winter will keep the chickens healthy and the egg basket full. GREGOR H. GLITZKE.

A CHEAP BUT PRACTICAL HEN HOUSE

The house is sixteen by sixteen feet, with two sliding glass windows in the south side.

In the center of the house four smooth posts are set, two feet from the edges of the house. The posts extend four and one half feet above the ground. The perches rest on crosspieces nailed to the tops of the posts, and are made of eleven one-by-three-inch pieces set on edge and held in place by four nails, two at each end, driven into the crosspieces. This allows the perches to be easily removed for cleaning and whitewashing. Two-inch pieces with four-inch strips nailed across them are provided for the fowls to walk up to the perches.

The floor of the house is of dirt, elevated six inches above the surrounding ground, and during winter is covered six inches deep with cut straw, in which the small grain and corn is fed, to make the fowls exercise. MRS. J. R. WILCONSON.

Live Stock and Dairy

SHEEP AND FERTILITY

IN THE agriculture of to-day there is no point more worthy of our attention than the maintenance of soil fertility, and no farmer is deserving of success who does not manage his soil in a way so that it will be as fertile as when he found it. Dairying will help to increase the fertility of the soil when large amounts of purchased grain foods are utilized. Feeding beef cattle is a branch of feeding that affords very doubtful profits under present prices, and in most sections of the country will prove unprofitable. The hog may be grown with profit only when kept in sufficient numbers to consume the waste products from the farm and dairy. There is an element of uncertainty in breeding horses and growing colts, and the cost of going into the business is large.

There are certain conditions and certain special crops that may return sufficient profits to justify the liberal use of commercial fertilizers, but the common farmer who follows no special line of crop production must depend upon the manure made from his feeding operations to maintain the fertility of his farm.

There is no line of stock feeding against which there seems to be so much unjustifiable prejudice as against the growing and feeding of sheep. The farmers to whom it would bring the richest returns are in most instances the ones who are the most ready to condemn the business, but to those who have given sheep growing a fair test as a factor in economic farming there is never lack of interest in discussing the profits of the business.

The sheep is one of the most profitable farm animals. They are prolific, their manure is the richest manure that is produced by farm animals, and is evenly distributed over the soil surface; their wool and flesh always command a fair price, now a high price. They can turn more waste feeds and weeds into animal matter and valuable fertilizer than any other kind of domestic stock. If we will make a study of the financial condition of the farmers who grow and feed sheep, we will find that they compare favorably with any other class, and their farms are as clean and free from weeds as any other farms.

Do we ever hear of a sheep farmer having to purchase grain food to maintain the fertility of his soil? The average farmer thinks that he is doing well when he gets a little direct income; but the sheep grower so improves his grain-impoverished soil that it produces as much grain again as formerly, and at the same time harvests a good crop of wool and mutton. Thus the increased fertility is an indirect income, and with the majority of sheep growers a very satisfactory one.

I believe that the sheep occupies about the same relative place among the animals kept on the farm that the legumes occupy among the crops that the best farmers grow in their rotations that are followed to maintain soil fertility. This theory I do not claim is the result of scientific study or research, but the result of an observation in which the workings of these two renovating agents—clover and sheep—on exhausted soils have been so similarly beneficial that I am inclined to believe that the principles that underlie these two agencies are in many respects similar, at least to the extent that sheep, too, perhaps inhale and retain certain elements from the air, and after completing their use for them, deposit them as a permanent acquisition of the soil.

There are farmers who have what they call inexhaustibly rich soils who may put their land to better use than raising sheep, but we all know that these farms are few, and we all know that there are many thousands who are tilling farms where the soil is being plowed and cultivated at an actual loss every year. These men would find it profitable to seed to pasture their poor, grain-impoverished soils and go into the sheep-growing business.

The question of hired labor on a farm is one of importance and enters largely into the profits for the year. A man who seeks to hire laborers on his farm just for the sake of furnishing them with work is a novelty at the present time. To grow grain crops, to manage and care for a herd of dairy cows, to feed and care for swine and cattle, or in fact any farm animals that are kept inside, require a number of efficient men if a large number of animals are being kept; but to care for a flock of sheep requires the least labor and seems to fit the prevailing economic ideas of hiring as little labor as is consistent with the number of stock kept and crops grown.

There are times when a flock of sheep requires our untiring and unceasing attention, more especially during the lambing season and at shearing time. But these times come with all farm animals. The cow needs good care and comfort during parturition, and no man with a fair degree of intelligence would think of leaving a valuable brood mare alone while in the act of parturition. These are matters that must be attended to on every farm.

Increasing demands from the largest cities for good mutton, and the rapidly increasing population of the country, make the sheep business look attractive to the most conservative farmers and feeders. Although with sheep, the same as with other lines of stock feeding, we have years of prosperity and years of low prices, yet the man who grows the best quality of mutton that is adapted to the trade of the large cities will never be compelled to market his high-class product at a loss.

To make sure of a product that will pay both a profit and please the trade we must feed and breed for it. We must breed animals that will mature early and at the same time give a good quality of sweet, juicy, marbled mutton—animals that have been bred for a number of generations for the purpose of supplying the largest amount of the finest meat and wool for the food that they consume. With this kind of stock, good care and liberal feeding there is no reason why the farmers should not make good profits from growing and feeding sheep.

W. MILTON KELLY.



SHEEP IN RAPE

HOGS AND CANADA THISTLES

We have been quite successful in ridding out this noxious pest from our farm by the aid of a few shoats turned in upon the patch.

Fence about the patch with a good pig-tight fence of some manner, and in June, when the plants are well up, turn in a bunch of thrifty shoats, unrung, and let them turn the patch upside down.

Every rain will help to add a smear of mud over the patch, and the hot sunshine in turn will bake the surface down, and no plant, not even a Canada thistle, will exist.

The shoats will dig after the tender rootlets for an addition to their grain diet, and you will be surprised how quickly and easily this pest will have succumbed.

GEO. W. BROWN.



THE NEW IOWA
CREAM SEPARATOR

Why Not Be Up-to-Date and Buy an Up-to Date Cream Separator?

The New Iowa is this kind of a separator and is by far the cheapest because it lasts the longest.

Don't purchase any kind of a separator until you have seen the New Iowa, then you will be tired of all other kinds and get the best.

The New Iowa has the most advanced improvements and you will admit it when you have seen it and had it fully explained to you.

Easiest turned, easiest cleaned, supply can just the right height to pour the milk in. The gear is absolutely enclosed in a dust proof frame.

It costs no more to get the best and it is much the cheapest in the end.

Write for our new 1908 catalog which illustrates and describes all the entirely new features of the separator that is attracting the attention oft he world's most scientific experts.

IOWA DAIRY SEPARATOR CO., 141 Bridge St., WATERLOO, IOWA

Choose Your Cream Separator From
The EMPIRE LINE





Three Different TYPES—Different PRICES, with a Full Range of SIZES and Capacities in Each Style

You don't have to take one man's idea or "hobby" when you come to headquarters. Different styles of separators, different separating methods, have been added to the Empire Line so that you may take your choice, not only of size and capacity, but also of type, design and price. And back of every separator in the Empire Line is the EMPIRE Guaranty and Reputation—because all are made in the Empire factory, the best equipped separator factory in the world. No matter which Empire you choose you can't miss it on quality. You'll get the benefit of Empire inventions, Empire designs, Empire construction, materials and "know-how." Don't buy the separator that someone wants to push on you—Get the type that suits your requirements and fits your pocketbook. You will find that it is some one of the Empire Line that will

Frictionless Empire

Make the Most Dollars for You

Get the Empire Book and Prices. The fairest and most impartial separator book ever published. It will help you select the separator you want. Write for it today.

EMPIRE DISC

EMPIRE CREAM SEPARATOR COMPANY
Western Branch, Chicago, Ill. Bloomfield, New Jersey

60 OLD TIME SONGS WITHOUT COST
WORDS AND MUSIC

This magnificent collection of the songs our mothers sang, is durably bound in a scarlet and black cover. New, freshly engraved music plates, and new type set verses, all printed on good quality book paper. These songs will endure for ages, and no home is complete without them. Here are the sixty songs in the collection.

America	Flow Gently, Sweet Afton	Last Night	Rocked in Cradle of the Deep
Annie Laurie	Forty-Nine Bottles	Last Rose of Summer	Rule, Britannia
Auld Lang Syne	Girl I Left Behind Me	Love At Home	Russian Hymn
Austrian National Hymn	Good Night Ladies	Maggie by My Side	Scots Wha Hae
Battle Hymn of Republic	Harp That Once Thro'	Maryland, My Maryland	See the Conquering Hero
Blue Alsatian Mountains	Her Bright Smile	Massa's in De Cold Ground	Soldier's Farewell
Bonnie Doon	Highland Mary	Minstrel Boy	Stars of the Summer Night
Bonnie Dundee	Holland's National Hymn	My Bonnie	Swanee River
Brave Old Oak	Home, Sweet Home	Nelly of the Hazel Dell	Sword of Bunker Hill
Coming Thro' the Rye	I Cannot Sing the Old Songs	Oft in the Stilly Night	Take Back the Heart
Dear Evelina	In the Gloaming	Old Cabin Home	Then You'll Remember Me
Die Wacht Am Rhein	Jingle Bells	Old Folks at Home	Warrior Bold
Dixie Land	John Brown's Body	Old Kentucky Home	When the Swallows
Do They Miss Me At Home	Juanita	Old Oaken Bucket	Woodman, Spare That Tree
Douglas, Tender and True	Killarney	Robin Adair	Yankee Doodle

We want to get 50,000 new friends for our great weekly story paper the Chicago Ledger. This paper has over a million readers a week. It is printed in beautiful colors and it is full of most fascinating reading. When it once gets into a home the folks want to subscribe for it right along. We have many subscribers who have read the Ledger over 25 years. We want it to be a friend in your home and to get started we will send the Song Collection described above, without cost to every one who sends in 25 cents in stamps for thirteen weeks' subscription. Everybody in the country knows the Chicago Ledger and what a great weekly it is. When a big publishing house makes such a liberal offer as this you may be sure you get big value for your subscription and the fine present of the 60 old time songs will keep us in your mind. Send in your 25 cent subscriptions to the Ledger today. The song collection and the first copy of the Ledger will be sent to you at once. Address CHICAGO LEDGER, 77 DEARBORN AVE., CHICAGO, ILL.

Clothes for every possible occasion in the newest and smartest of designs are charmingly illustrated in the

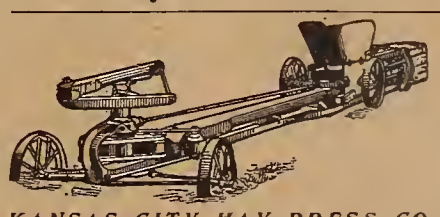
Spring and Summer Catalogue of
Farm and Fireside Patterns

This catalogue is like a big, illustrated fashion magazine. The cover shows a French costume exquisitely colored, a perfect reproduction of the French gown as Miss Gould saw it in Paris.

There are pages of French blouses and smart American-made shirt waists; there are princess gowns for street wear and for evening occasions; there are many new fashions shown for young girls, and pages of clothes all practical and yet pretty for children.

We will send this catalogue to your address if you enclose with your order four cents in stamps. In writing for the catalogue address

PATTERN DEPARTMENT
FARM AND FIRESIDE
11 E. 24th Street New York City



LIGHTNING HAY PRESSES
THE OLD RELIABLE IN USE 25 YEARS
HORSE POWER AND BELT POWER
OUR VARIOUS STYLES MEET ALL DEMANDS
SELF FEED WOOD OR STEEL PITMAN
QUALITY GIVES BEST RESULTS SEND FOR CATALOG
KANSAS CITY HAY PRESS CO., - - 124 Mill Street, Kansas City, Mo.

BUY DIRECT FROM OUR FACTORY



saving all expenses and profits of the dealer Elkhart Buggies and Harness have been sold direct from our factory to the user for 35 years. We are THE LARGEST MANUFACTURERS IN THE WORLD selling to the consumer exclusively. We ship for examination and approval guaranteeing safe delivery. No cost to you if not satisfied as to style, quality and price. Over 200 styles of Vehicles and 65 styles of Harness. Send for new free catalog.
Elkhart Carriage & Harness Mfg. Co., Elkhart, Ind.
No. 676. Top Buggy with padded wing dash and Stanhope seat. Complete, $57.50. As good as sells for $25 more.

WHITMAN'S LATEST IMPROVED BALING PRESSES
The standards of the world for 35 years. Victorious in every contest. Made in 31 styles and sizes, for horse, steam or other power. Most rapid and durable machines made. Fully guaranteed. Complete illustrated descriptive Catalogues sent on request.
Address: The Whitman Agricultural Company, Saint Louis, Mo., U. S. A.

U S U S
For 16 Years the Best
STILL BETTER
1908

The market to-day is flooded with separators of every style and description, and all make "big claims!"
But the World's Record for clean skimming in 50 consecutive tests is held by only one Separator, and that one is the reliable
U.S. CREAM SEPARATOR
in competition with all other Standard makes. Is not this convincing proof of which is best? Dairymen, "get wise."
Send to-day for Catalogue No. 69
18 distributing warehouses in U. S. and Canada.
494
VT. FARM MACHINE CO., BELLOWS FALLS, VT.

BICKMORE'S GALL CURE


The standard reliable remedy for Galls, Scratches, Cracks, Wire Cuts and all similar sores on animals. Sold by dealers everywhere. Money refunded if it fails. Sample and Bickmore's new horse book mailed for 10 cents. Write today.
Bickmore Gall Cure Co.,
Box 948, Old Town, Maine.


ABSORBINE
Removes Bursal Enlargements, Thickened Tissues, Infiltrated Parts, and any Puff or Swelling. Cures Lameness, Allays Pain without laying the horse up. Does not blister, stain or remove the hair. $2.00 a bottle, delivered. Pamphlet 1-C free.
ABSORBINE, JR., for mankind, $1.00 bottle. Cures Synovitis, Weeping Sinew, Strains, Gouty or Rheumatic Deposits, reduces Varicose Veins, Varicocele, Hydrocele. Allays pain. Book free. Genuine mfd. only by
W. F. YOUNG, P. D. F., 23 Monmouth St., Springfield, Mass.

A Permanent Position
for you can be had just for the asking. We want good, live representatives in every locality in the country to represent Farm and Fireside and look after our interests. Your time is your own. Remuneration liberal. Write immediately for further particulars to
Merchandise Payment Department
FARM AND FIRESIDE
Springfield, Ohio



NEWTON'S Heave, Cough, Distemper and Indigestion Cure. A veterinary Remedy for wind, throat and stomach troubles. Strong recommends. $1.00 per can, of dealers, or exp. prepaid. The Newton Remedy Co. Toledo, Ohio.

Daggett Calf Weaner
guaranteed to wean or money back.
CALF WEANER CO., Shenandoah, Iowa

$29.75 FOR THIS NEW LOW DOWN AMERICAN CREAM SEPARATOR

WAIST HIGH
Guaranteed to skim closer than any separator in the world. Sold direct from the factory. We are the oldest exclusive manufacturers of hand separators in America. You save all agents', dealers' and even mail order house profits. We have the most liberal 30 DAYS' TRIAL, freight prepaid offer. Write for it today.
Our new low down, waist high separator is the finest, highest quality machine on the market; no other separator compares with it in close skimming, ease of cleaning, easy running, simplicity, strength or quality. Our own (the manufacturer's) long term guarantee protects you on every AMERICAN machine. Don't buy a separator from any agent, dealer, or mail order house; don't make any contract or agreement; don't accept any machine finally until you run a few gallons of milk through our new comfortable waist high AMERICAN. Use it every day for a month and see how it outclasses every other machine. We can ship immediately. Let us send you our new Cream Separator Offer. It's different from any other, just as our new waist high AMERICAN is miles in advance, years ahead of any other separator in the world. Write for our great offer and handsome free catalogue on our new waist high model. Address,
AMERICAN SEPARATOR CO.
Box 1058, Bainbridge, New York.

It is to your advantage to mention Farm and Fireside in writing to advertisers. Farm and Fireside folks get the very best attention.

Live Stock and Dairy

SILAGE FOR THE DAIRYMAN

Dairying is not as profitable as it might be. I believe I am safe in saying that one third of the cows in the United States to-day are kept at a loss; another one third about pay expenses—that is, pay for the grain and forage and labor; the remaining one third pay a profit.

The loss sustained in keeping cows is due to two causes. One is that they are not dairy cows to begin with, do not have a capacity of milk production that will jusify their keep, and this cannot be changed. If some knew how many poor cows they had, which can easily be determined by the use of the Babcock test and scales, they would send these to the shambles, or sell them to the steer raiser.

Another reason is that they are not properly fed. They are not given a balanced ration. There are thousands of cows that have paid poorly this year because they have been fed on corn and timothy, or corn and corn fodder alone, or corn and straws of various kinds, or inferior clover hay. This is more especially true in the corn states.

The experience of the last thirty years has shown that a balanced ration can be grown on the farm without the purchase of any feeds containing protein—as, for example, bran, oil meal or cotton-seed meal. It has been shown that forty pounds of silage and eighteen pounds of good clover hay will make a fairly well-balanced ration for an ordinary cow—in other words, that a ton of silage will furnish half the ration of an average cow for fifty days, and that an acre of good corn that will yield fifty bushels to the acre will furnish from eight to twelve tons of silage.

Those who have corn of this character and clover, or clover and timothy, or alfalfa meadow that will yield from two to three tons of hay a year, can easily figure on the number of cows that can be kept during the winter season from a definite number of acres.

Every dairyman who is keeping from ten to twenty cows, and has no silo, should therefore begin to study the silo question very thoroughly.

The great obstacle in the way of the individual farmer using the silo is not the cost of building it, which, considering its capacity, is not as great as the cost of a barn would be. It is rather in the cost of the machinery necessary to convert the corn into silage, and of the help needed at that particular time. Here is where co-operation comes in.

Two farmers, or at the most three, can very well co-operate in the purchase of power and silage cutters, and by co-operating can put say ten acres of corn from each farm into the silo quite as cheaply as they can harvest and shred it or husk it in the usual way. To begin with, in case corn is put in the shock, it should be cut with the harvester, and bound. The cost of the cutting is the same in either case. It is no more trouble to put it on the wagon than to put it in the shock, nor indeed as much. It is no more trouble to put it in the silo than to shred it. The cost of the machinery required does not differ much.

The advantage is that when corn is once in the silo it furnishes a nutritious, succulent ration through the whole winter season; and in case any should be left over, it will piece out short pasture in the summer season. If a man has from ten to twenty cows he cannot well afford to be without a silo.

Any farmer can well afford to put up more silage than his cows will require. It can be fed to good advantage to the young stock, to the sheep, and to some extent to the hogs. If care is exercised, the horses will be the better for a small amount of it.

It will be money in the pockets of every man who is engaged in dairying and keeping over ten cows to take up this silage question in earnest if he has not already done so. For those who have less than ten cows it is not advisable to build a silo, for the reason that a small silo cannot be built nearly as economically as a large one. There is more friction, more exposure on the sides, and it does not have sufficient depth to give the weight necessary to so thoroughly compact the silage as to exclude the air.

Wm. H. Underwood.

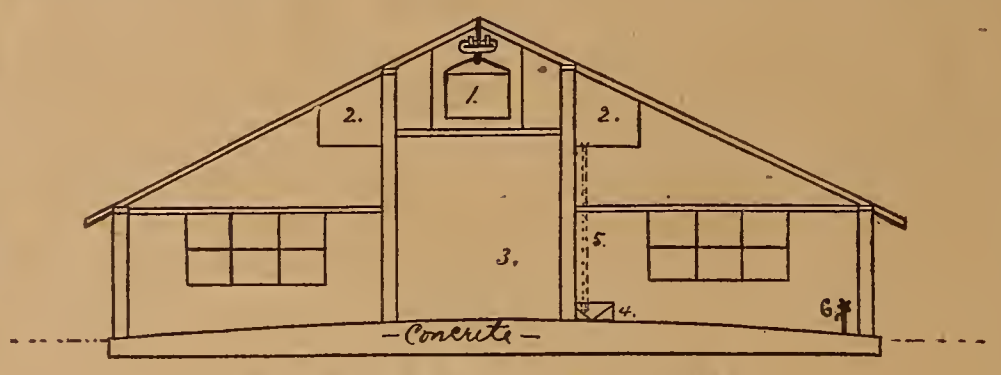


FIG. 1—FRONT ELEVATION OF HOG HOUSE

A HOG HOUSE WITH CONCRETE FLOOR

The floor is twenty-four by fifty feet. An excavation of ten inches was made. This was filled with eight inches of coarse gravel, three inches of concrete seven parts sand to one of cement, then a surface of seven eighths of an inch two parts sand to one of cement. This raised the floor two inches above the level of the soil surrounding it.

The building is divided into ten rooms, each ten by ten feet, and an alley four feet wide running the entire length. The door to each room opening into the alley is four feet wide, and when opened just fits the alley. These doors are all fastened with hook and staples when shut and when opened.

By opening any two of the doors, a change of the hogs may be made from one room to the other by one person with ease and despatch.

There are two windows in each end of the building, which admit light and air.

The cross at A, Fig. 2, shows the position of the hydrant, and with sixty feet of hose I can clean the floor of the entire building perfectly in less than an hour. B shows the position of the feed trough, in which is placed an automatic feeder. This is a two-inch gas pipe running down from a feed box located near the roof and convenient to a box which runs on a track and conveys ground feed from the grain room in the main barn, some fifty feet distant. 1 in Fig. 1 shows the box on the track which is fastened to the comb of the roof; 2 2 are grain bins, holding about four bushels each, which are located one over each room; 3 is the entrance to the alley; 4 is the feed trough, made of concrete; 5 is the pipe leading from the bin to the trough.

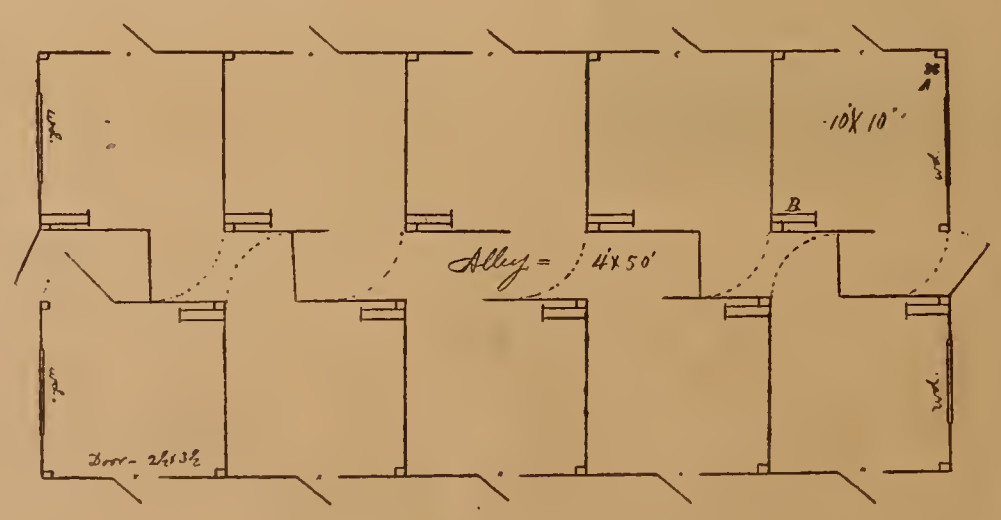


FIG. 2—FLOOR PLAN OF HOG HOUSE

MATERIAL FOR THE BUILDING

12 posts 4″x4″x8′, at 3 cents	$ 3.81
12 posts 4″x4″x4′, at 3 cents	1.90
400 feet 2″x4″plates, at 3 cents	7.98
52 pieces 2″x4″x16′, at 3 cents	16.50
750 feet siding, at 3 cents	22.50
1500 feet sheeting, at 1½ cents	22.50
750 feet partition, at 2 cents	15.00
30 pieces 2″x4″x10′, at 3 cents	6.00
500 feet ⅞″ dressed poplar, at 4 cents (feed boxes)	20.00
15 squares galvanized iron, at $5.00,	75.00
150 pounds of nails, at 3 cents	4.50
4 windows, at $1.50	6.00
14 pair strap hinges, at 10 cents	1.40
	$203.09
24 barrels Portland cement, at $2.00,	48.00
Cash paid for material	$251.09

With plenty of gravel and sand on the river shore on the farm, and hauled by the boy and farm hands at odd times, no account of time was kept.

Cost of putting down concrete at 4 cents a square foot	$ 48.00
Material	251.09
Carpenter work, 36 days at $3.00	108.00
Total cost	$407.09

J. Wesley Griffin.

BABY BEEF

Seeing an article in your excellent paper of April 25th by Hugh McKenney on "Raising Baby Beef," as I have the honor of raising and feeding one of the first bunches of real baby beef that were shipped to Chicago, I desire to say a word in regard to this subject.

It was in 1895 that Mr. C. H. Gardner, of Blandinsville, Illinois, during the panic in the cattle business of that time, purchased fifty head of pure-bred Aberdeen Angus cows and conceived the idea of raising baby beef, I being employed by him at that time.

We did not use the methods described by Mr. McKenney, but obtained better results than he speaks of. Instead of feeding skim milk, the calves were allowed all the milk they could consume, direct from the cow, and I found that by letting them nurse three times a day they could take all of a cow's milk when they were two weeks old.

They were spring calves and received no other feed than milk and grass until the first of September, at which time I began to feed them new oats, in limited quantities at first, but later allowing them to go to a self feeder. By this time they were allowed to run with the cows, but I fixed a place with posts set in such a way that they alone could get to the feeder when they chose.

They were weaned at about seven months. After the first feeder of oats was consumed, the next was filled with half shelled corn and half oats. This with good clover hay kept them going that winter the same as when on grass.

The next fall seventeen head of the steers were exhibited at the Chicago Stock Show, and averaged 1,170 pounds at eighteen months old. About a month later the heifers, twenty head, were sold for $6.40 a hundredweight, which is the highest price paid in Chicago for heifers for beef purposes.

This method took very little time compared with that of Mr. McKenney.

I have had twenty years' experience in the feed lot and am convinced that no other method of feeding beef cattle offers half as much profits as that of baby beef.

Too many calves are stunted during their first winter, and after that will never make good, profitable feeders. Take, for instance, steers that are shipped from the range at two and three years old, never having tasted grain, and put them in the feed lot. Give them grain and hay for about three months, then ship to the market. The shipper wonders why they have not made a profit, and goes home firmly resolved to hereafter sell his corn, as it does not pay to feed cattle.

Such feeding has lost the farmers of the corn belt millions of dollars. Raise your own calves. Get cows enough and produce baby beef, and you will not be disappointed.

Alex Bratt.

Select the largest, most perfectly built sows for breeding purposes. Those are the ones that are usually sold, just because they will bring a dollar or two more. If anybody is entitled to the best, it is the farmer.

R. B. Rushing.

THE FLY NUISANCE

METHODS OF PROTECTION

IT IS as true of the farmer as of the gardener, that there is a job wanting doing at all times of the year, but just when the farmer is "with thronging duties pressed," and hardly knows which way to turn or what to leave undone, while working such hours at hay making as would frighten out of their wits forever the lame ducks of our city slums for whom the cry is raised of "back to the land," his enemies are at work.

One of the many things the busy man fails to do is to take precautions against the various insect pests which come forth in such clouds when the first sensation of thunder is in the air. There are the gadflies and the bot flies and the sheep bot and the fly that blows and leaves maggots in the fleece. These and many more seem, as it were, to know how busy the man is, and work their wicked will all too soon, surprising him again this summer, although he has previously suffered and declared he will never be caught napping again.

A few simple and easy precautions may be named here for those who can make time, and it is always the busiest man who can take an extra job, and who is asked to act as executor and trustee. For protection for cattle from the female gadfly, which is eager to puncture the back and deposit an egg which will grow into a fat maggot in the winter, a smear of tar and grease—any grease, cart grease, butter that has gone bad, or the thick stuff that falls to the bottom of oil tins that have been chilled during the winter—will do.

If oil has to be bought, fish oils are the most effectual, whether sold as whale oil or under other names; and the person should make it known to the oilman or druggist that he is not seeking quality, but rather cheapness in this case, and there will very likely be some old stock the vender will be right glad to clear. Tar alone is a little too hot in summer time and disposed to scald when the sun is on it, but one part of tar and two of thick oil or one of a thinner kind will do. For a week or so the fly will hover, decide that the intended victim is too unsavory, and pass on to the bullock of some less cautious owner.

THE BOT FLY

This fly which pays similar attention to the breasts, legs and sides of horses may be balked by a light smear of the same thing, or in the case of working horses, a gentle rubdown with a paraffin rag before going out in the morning.

The sheep bot fly lays its eggs in the nostrils of its victims, and this it is which makes them crowd together, with heads all turned inward, on sultry days. Going around a flock of sheep and smearing their nostrils is not practicable in these busy days of hay making, but there is a wholesale way of doing it by making auger holes in a plank, and laying it over a trough in which a little cake or corn is placed. The holes are smeared with tar or fish oil, and the sheep get enough on their muzzles to disgust the fastidious although persistent fly.

SHEEP MAGGOT FLY

The fly that causes maggots in the fleece generally lays on the under side of the leaves of trees, and it is around shady pastures, therefore, that we must often have this trouble. To prevent the fly striking, powder of sulphur and oil of tar are shaken over the moist fleece in the morning, a watering pot with fine rose being used when there is no dew, and a rough parting being made along the back of the sheep.

Despite these precautions, the fly will often find a sore place on the head of the sheep. For those unfortunate enough to be struck and already have maggots, a strong carbolic oil is good. One in twelve or fifteen will both kill the maggots and act as a healing and protective dressing, without causing damage to the skin, which the favorite old remedy of the shepherd does—namely, "fly stone" or "sublimate" (corrosive sublimate or perchloride of mercury). The latter is instantaneous in its action, but it is apt to leave a scar, on which the wool never grows again, and the mark can be found when the skin is dressed, which lowers its value. The strong carbolic oil is the best thing to use. Turpentine and oil answer fairly well, too, but after trying all sorts of things I recommend the above.

TORMENTING HORSES

Flies on horses' heads and other parts are a real torment, and a fortune still awaits the man who can discover a remedy that is at once harmless and lasting. Protection for a few hours may be obtained by sponging over with any of the coal-tar emulsions. All these things on horses' skins dull the coat and attract dust for the time being; but it is a choice of evils, and one had better put up with such trifles than have horses so worried with flies that they rub their bridles off and get into serious trouble—an accident I have frequently known.

Flies do not like darkness, and providing the stables can be well aired during the day, the sunlight should just at this time of the year be kept out, although so desirable as a purifier the greater part of the year.

The flies which pester cows indoors and persons in their houses are chiefly hatched in fresh manure. Its daily removal to a distance has in many instances caused a cessation of the plague.

W. R. GILBERT.

Live Stock and Dairy

THE COST OF BUILDING A CREAMERY

During the past few years there have been built in the United States several thousand creameries, many of which have been successful from the start, while others have failed after a few months' operation, and some were never even started.

An investigation of the creamery business in several states by the United States Department of Agriculture has shown that the cause of many of the failures was due to lack of a sufficient number of cows, which should not be less than four hundred, and that others failed because of improper organization, in the case of co-operative creameries, and excessive cost of building and equipment. Many creameries have cost about twice their actual worth, and were not of the type suited to the locality in which they were built.

The cost of a building about twenty-eight by forty-eight feet will vary from eight hundred dollars to fourteen hundred dollars, dependent upon the locality, the construction, and the cost of material and labor. Such a building usually consists of a main workroom, engine and boiler room (including space for refrigerator machine), coal room, refrigerator, storeroom and office.

Machinery for a hand-separator plant, consisting of a fifteen-horse-power boiler, ten-horse-power engine combination churn with a capacity of six hundred pounds of butter, and other necessary apparatus, will cost approximately twelve hundred dollars. Machinery for a whole-milk plant will cost about eighteen hundred and fifty dollars. This equipment will handle from one thousand to twelve hundred pounds of butter a day. If a refrigerating machine is included, the cost will be from six hundred dollars to one thousand dollars more.

The total cost of a creamery would therefore vary from two thousand dollars for a simple hand-separator plant without artificial refrigeration, where labor and material are cheap, to forty-two hundred and fifty dollars for a whole-milk plant including artificial refrigeration and a higher cost of labor and material.

The Department of Agriculture is prepared to furnish information for the proper organization of creameries and cheese factories, and upon request will supply plan of organization, list of machinery and plan for creamery. Correspondence should be addressed to the Dairy Division, United States Department of Agriculture, Washington, D. C.

In Canada many farmers are seeding their farms to grass, and will hereafter devote more time to cattle raising and less to the growing of grain. This is mainly on account of the difficulty of securing help at harvest time.

A FEW OF THE MANY

VERY PROMINENT USERS OF THE DE LAVAL CREAM SEPARATORS

U. S. Department of Agriculture, Washington, D. C.
Hon. Levi P. Morton, Ex-Vice-President of United States.
J. Pierpont Morgan, Esq., the great banker.
Andrew Carnegie, Esq., the great steel magnate.
Judge Alton B. Parker, Ex-Candidate for President.
John D. Rockefeller, Esq., President the Standard Oil Co.
William K. Vanderbilt, Esq., New York City.
Hon. Seth Low, Ex-Mayor of New York City.
Ex-Gov. W. D. Hoard, proprietor of *Hoard's Dairyman*.
J. B. Duke, Esq., President American Tobacco Co.
H. B. Gurler, Esq., the Dean of American dairying.
C. I. Hood, Esq., of "sarsaparilla" and fancy cattle fame.
Sir Hugh Montagu Allan, head of the Allan steamship lines.
Pennock E. Sharples, Esq., of Sharpless butter fame.
Richard Watson Gilder, Esq., editor the *Century* Magazine.
Thomas W. Lawson, Esq., of "frenzied finance" fame.
E. M. Barton, Esq., President the Western Electric Co.
W. Campbell Clark, Esq., of the Clark Thread Co.
Denman Thompson, Esq., the actor of "Old Homestead" fame.
H. N. Higginbotham, Esq., President Chicago World's Fair.
T. Eaton, Esq., President Canada's greatest department store.
R. T. Crane, Esq., President the Crane Co., Chicago.
Dr. J. A. Mead, President the Howe Scale Co.
John H. Starin, Esq., of "Glen Island" and steamship fame.
Fairfield "Certified" Dairies, Montclair, N. J.
William A. Wright, Esq., President New York Milk Exchange.
Prof. W. H. Caldwell, Secretary American Guernsey Cattle Club.
Dr. Leslie D. Ward, Vice-President Prudential Life Insurance Co.
Hon. F. E. Dawley, State Director Farm Institutes, New York.
Oakleigh Thorne, Esq., President Trust Co. of America.
Walker-Gordon Laboratories, of all large cities.
C. Brigham & Co., Boston's great milk dealers.
Borden's Condensed Milk Co., the world's greatest milk concern.
Dr. S. B. Hartman, of "Peruna" and stock farm fame.
J. B. Haggin, Esq., the great capitalist and land owner.
Rev. E. M. Stires, Rector of St. Thomas', New York.
W. W. Montague, Esq., Ex-Postmaster, San Francisco.
Hon. Herbert W. Bowen, Ex-Minister to Venezuela.
William Ladd, Esq., the prominent Pacific Coast financier.
S. R. Guggenheim, Esq., the smelting magnate.
P. G. Henderson, Esq., President Red Polled Cattle Club.
D. H. Anderson, Esq., editor of the *Irrigation Age*, Chicago.
W. H. Wanamaker, Esq., the Philadelphia clothier.
Hon. Wayne McVeagh, Ex-U. S. Attorney-General.
Philip Moen, Esq., the great wire manufacturer.
Dr. Charles McBurney, the great surgeon.
Col. Charles F. Mills, editor *Farm Home*, Springfield, Ohio.
T. S. Cooper, Esq., the chief importer of Jersey cattle.
Edw. R. Strawbridge, Esq., Strawbridge & Clothier, Philadelphia.
W. A. Shaw, Esq., proprietor of the *Texas Farmer*.
J. McLain Smith, Esq., editor of *Farmer's Home*, Dayton, Ohio.
Hon. B. P. Norton, Ex-State Dairy Commissioner of Iowa.
Hon. H. K. Boyer, Ex-Superintendent U. S. Mint.
Joseph L. Jones, Esq., President Philadelphia Milk Exchange.
Hon. Edward Burnett, of "Deerfoot Farm" fame.
Mrs. W. E. H. Massey, Dentonia Park Farm, Toronto.
Tilson's Farm, of "Tilson's Oats" fame.
Prof. F. J. Sleightholm, Government Dairy School, Strathroy.
The Royal Dairy of England, at Sandringham.
E. H. Harriman, Esq., the Pacific Railway magnate.
Hon. Whitelaw Reid, U. S. Ambassador to England.
August Belmont, Esq., the great banker and subway magnate.
Hon. Sydney Fisher, Canadian Minister of Agriculture.
Miss Helen Gould, the great philanthropist.
Charles L. Tiffany, Esq., Tiffany & Co., the famous jewellers.
Walter W. Law, Esq., owner of Briarcliff Farms.
C. P. Goodrich, Esq., the well-known dairy writer.
George J. Gould, Esq., the railway and financial magnate.
Frederick G. Bourne, Esq., President Singer Sewing Machine Co.
James J. Hill, Esq., the great Western railway magnate.
J. C. Hoagland, Esq., President Royal Baking Powder Co.
Col. Alfred A. Pope, of bicycle and automobile fame.
Sir William Van Horne, Ex-President Canadian Pacific Railway.
Clarence H. Mackay, Esq., President Postal Telegraph & Cable Co.
J. Ogden Armour, Esq., head of Armour & Co., Chicago.
H. McK. Twombly, Esq., owner of the finest dairy in the world.
George Burnham, Esq., President Baldwin Locomotive Works.
John Huyler, Esq., the famous New York candy maker.
Hon. Paris Gibson, U. S. Senator from Montana.
Henry O. Havemeyer, Esq., President American Sugar Co.
James Stillman, Esq., President Nat. City Bank, New York City.
L. F. Swift, Esq., President Swift Packing Co., Chicago.
Norman B. Ream, Esq., of the Pullman Palace Car Co.
Edward D. Adams, Esq., of the Allis-Chalmers Co.
John Newman, Esq., President Elgin Butter Board of Trade.
Dr. Charles H. Frazier, Medical Dean University of Pennsylvania.
Nathan Straus, Esq., of R. H. Macy & Co., New York City.
Beatrice Creamery Co., largest creamery concern in the world.
Moses Taylor, Esq., President Lackawanna Steel Co.
John Sloane, Esq., W. & J. Sloane, great carpet manufacturers.
George H. Ellis, Esq., proprietor *Christian Register*, Boston.
J. R. Whipple, Esq., prop'r Touraine and Young's Hotels, Boston.
F. L. Houghton, Esq., Sec'y Holstein-Friesian Breeders' Assn.
Col. F. P. Holland, proprietor of *Texas Farm and Ranch*.
Walter M. Lowney, Esq., the candy manufacturer.
Mrs. Scott Durand, owner Chicago's famous Crabtree dairy.
William MacKenzie, Esq., Pres't Canadian Northern Railway.
John Arbuckle, Esq., the great coffee merchant.
Sheffield Farms, high-class milk producers.
Horton Ice Cream Co., the biggest of its kind.
E. A. Darling, Esq., President American Jersey Cattle Club.
Hon. Fletcher D. Proctor, Governor of Vermont.
Colgate Hoyt, Esq., President Automobile Club of America.
George W. Vanderbilt, Esq. of Biltmore, N. C.
Samuel Haugdahl, Esq., Grand Prize butter winner, Paris Exp's'n
Frank E. De Long, Esq., of "hook and eye" fame.
Hon. John Lee Carroll, Ex-Governor of Maryland.
Daniel Sully, Esq., the well-known actor.
Prof. F. S. Cooley, Massachusetts Agricultural College.
John Lowber Welsh, Esq., President Keystone Watch Case Co.
James A. Rumrill, Esq., Ex-President Boston & Albany Railroad.
Robert W. Reford, Esq., steamship magnate, Montreal, Canada.
Hon. Thomas Ballantyne, Ex-Speaker Ontario Parliament.
Fred. G. Crane, Esq., of the Crane Paper Co.
J. H. Rushton, Esq., Ex-Pres't Nebraska Dairymen's Association.
Robt. Crane, Esq., Crane Ice Cream Co., Philadelphia.

And thousands of others equally well known.

CATALOGUE AND COMPLETE PARTICULARS REGARDING DE LAVAL CREAM SEPARATORS ARE TO BE HAD FOR THE ASKING

The De Laval Separator Company

42 E. Madison Street CHICAGO — 1213 & 1215 Filbert St. PHILADELPHIA — Drumm & Sacramento Sts. SAN FRANCISCO.

General Offices: 165-167 Broadway NEW YORK

173-177 William Street MONTREAL — 14 & 16 Princess Street WINNIPEG. — 107 First Street PORTLAND, OREG.

SUBSCRIPTION PRICE

One Year (24 numbers) 25 cents
Five Years (120 numbers) $1.00

Entered at the Post Office at Springfield, Ohio, as Second-Class Mail Matter.

Subscriptions and all editorial letters should be sent to the offices at Springfield, Ohio, and letters for the Editor should be marked "Editor."

The date on the address label shows the time to which each subscriber has paid.

Subscribers receive this paper twice a month, which is twice as often as most other National farm journals are issued.

Silver, when sent through the mails, should be carefully wrapped in cloth or strong paper, so as not to wear a hole through the envelope.

When renewing your subscription, do not fail to say it is a **renewal.** If all our subscribers will do this a great deal of trouble will be avoided.

FARM AND FIRESIDE

PUBLISHED BY

THE CROWELL PUBLISHING COMPANY

SPRINGFIELD, OHIO

Branch Offices: 11 East 24th St., New York City.

Tribune Building, Chicago, Ill.

ABOUT ADVERTISING

FARM AND FIRESIDE does not print advertisements generally known as "readers" in its editorial or news columns.

Mention FARM AND FIRESIDE when you write to our advertisers, and we guarantee you fair and square treatment.

Of course we do not undertake to adjust petty differences between subscribers and honest advertisers, but if any advertiser should defraud a subscriber, we stand ready to make good the loss incurred, provided we are notified within thirty days after the transaction.

FARM AND FIRESIDE is published on the 10th and 25th of each month. Copy for advertisements should be received twenty-five days in advance of publication date. $2.00 per agate line for both editions; $1.00 per agate line for the eastern or western edition singly. Eight words to the line, fourteen lines to the inch. Width of columns 2¼ inches, length of columns two hundred lines. 5% discount for cash with order. Three lines is smallest space accepted.

Letters regarding advertising should be sent to the New York address.

Do not spoil your alfalfa hay by leaving it exposed to the burning sun until it has lost all its natural moisture. As soon as thoroughly wilted rake into windrows, and cure out in these rows and in cocks. It will be worth more as feed if cured in this way, for it then has the leaves left on the stalks, and if grown for sale it will command a much better price. Be careful not to stack or put in the mow when wet with rain or dew, or the result may be a fire or a lot of moldy, musty hay.

◈

There are so many different factors that enter in to influence the production of every crop, that the more nearly any one of them is brought under the control of the farmer, the more surely is a good crop made possible. One factor which so largely affects the hoed crops is the moisture content of the soil. In many instances this can be controlled by proper tillage. Every farmer should study his conditions and follow up any method of cultivation which will tend to conserve the moisture for the use of his crops.

◈

The editor had the rare, good fortune to attend the White House Conference on the Conservation of Natural Resources. Inspired by the enthusiasm aroused at that remarkable meeting, it shall be his great pleasure, from time to time in the future, to select for the subscribers of FARM AND FIRESIDE the best reading matter obtainable on the subject of its deliberations—a subject of vital importance to the future well-being of the American people. We can all join heartily in the new national movement inaugurated at that conference, and each do his share toward the ultimate accomplishment of its noble and patriotic purposes.

◈

"LOOKING AHEAD"

In this issue FARM AND FIRESIDE gives to its readers an interesting and instructive article on forest conservation by the Hon. Gifford Pinchot, Chief Forester of the United States Department of Agriculture. Mr. Pinchot has been unselfishly devoting the best years of his life to a work of vast importance to the future welfare of the people of this country. Some years ago, on the great Biltmore estate in North Carolina, he made an application of the correct principles of forestry on a large scale and demonstrated their practical value. His work there was a great object lesson to this country. He showed how to remove the mature timber profitably without waste and at the same time preserve the forest. To his work in forestry for the government he brought genuine enthusiasm, rare ability and remarkable foresight. It must be a great gratification to him now to see the whole country aroused as it has never been before to a realization of the importance of conserving our great forest resources. Utilization of timber without waste and without destruction of the forest is not all that is involved in forestry. Water is power, but the control of that power is through the forests on the hills and mountain slopes regulating its flow in the streams and rivers. The great contemplated improvements of our inland waterways, therefore, depend largely on forestry. The conservation of iron ores depends largely on the improvement and use of our inland waterways for freight transportation. "Railroads require much steel, water does not." Again, forests control conservation of the soil on rolling lands. "More than a thousand millions of tons of our richest soil is swept into the sea every year, clogging the rivers on their way and filling our harbors." Thus the conservation of our great natural resources are all bound together, marvelously for the common good.

In his address at the opening of the Conference on the Conservation of Natural Resources at the White House, President Roosevelt paid this deserved tribute:

"Especial credit is due to the initiative, the energy, the devotion to duty and the farsightedness of Gifford Pinchot, to whom we owe so much of the progress we have already made in handling this matter of the coordination and conservation of natural resources. If it had not been for him this convention neither would nor could have been called."

AN EPOCH-MAKING CONFERENCE

The Conference on the Conservation of Natural Resources, held in the famous East Room of the White House, May 13-15, 1908, marks a new era in American history. Never before has there been such a gathering of men representing all the people of the United States. It considered the gravest problem before the country to-day. At Independence Hall the wisdom of our forefathers gave us, first, our heritage of civil liberty, and, later, the constitution which welded the states into a nation. The present enormous consumption and waste of our once vast natural resources are bringing us rapidly to the point of their exhaustion. This conference seriously considered this great national danger and the ways and means of preserving the basis of all our material prosperity, so that the nation our fathers made shall endure for the generations to come. The meeting itself was a manifestation of a national, social instinct of self-preservation.

At this history-making conference the federal government was represented by the President, Vice-President, Members of the Cabinet, Justices of the Supreme Court of the United States, and Senators and Representatives in Congress. Representing the states were twoscore governors, with the confrères appointed by them, including experts in natural resources and leaders of several national organizations. The industries were represented by such men as Andrew Carnegie, James J. Hill and John Mitchell. The universities were represented by such men as Presidents Angell and Snyder of Michigan, James of Illinois, Bailey of Cornell, and Hadley of Yale. Experts in geology, mining, forestry, irrigation and transportation took part in the proceedings. In brief, many of the most distinguished men in the political and industrial life of the nation were in attendance.

The addresses and discussions were of the highest character. Undoubtedly this conference has centered the attention of the entire country upon the broad and vital subject of wisely conserving and properly utilizing all its rich resources. Above all things notable in the conference was the spirit of hearty co-operation manifest among the delegates to achieve something, to do now whatever can be done in every part of the country to work out the nation's weightiest problem.

The conclusions reached by the conference after hearing the addresses and discussions and the course of action recommended for the future are admirably set forth in the following declaration of principles unanimously adopted:

"We, the governors of the states and territories of the United States of America, in conference assembled, do hereby declare the conviction that the great prosperity of our country rests upon the abundant resources and the land chosen by our forefathers for their homes, and where they laid the foundation of this great nation.

"We look upon these resources as a heritage to be made use of in establishing and promoting the comfort, prosperity and happiness of the American people, but not to be wasted, deteriorated nor needlessly destroyed.

"We agree that our country's future is involved in this; that the great natural resources supply the material basis upon which our civilization must continue to depend, and upon which the perpetuity of the nation itself rests.

"We agree, in the light of facts brought to our knowledge and from information received from sources which we cannot doubt, that this material basis is threatened with exhaustion. Even as each succeeding generation from the birth of the nation has performed its part in promoting the progress and development of the republic, so do we in this generation recognize it as a high duty to perform our part, and this duty in large degree is the adoption of measures for the conservation of the natural wealth of the country.

"We declare our firm conviction that this conservation of our natural resources is a subject of transcendent importance, which should engage unremittingly the attention of the nation, the states and the people in earnest co-operation. These natural resources include the land on which we live and which yields our food; the living waters which fertilize the soil, supply power and form great avenues of commerce; the forests which yield the materials for our homes, prevent erosion of the soil and conserve the navigation and other uses of our streams, and the minerals which form the basis of our industrial life and supply us with heat, light and power.

"We agree that the land should be so used that erosion and soil wash should cease; that there should be reclamation of arid and semi-arid regions by means of irrigation, and of swamp and overflowed regions by means of drainage; that the waters should be so conserved and used as to promote navigation, to enable the arid regions to be reclaimed by irrigation, and to develop power in the interests of the people; that the forests, which regulate our rivers, support our industries and promote the fertility and productiveness of the soil, should be preserved and perpetuated; that the minerals found so abundantly beneath the surface should be so used as to prolong their utility; that the beauty, healthfulness and habitability of our country should be preserved and increased; that the sources of national wealth exist for the benefit of all the people, and that the monopoly thereof should not be tolerated.

"We commend the wise forethought of the President in sounding the note of warning as to the waste and exhaustion of the natural resources of the country, and signify our high appreciation of his action in calling this conference to consider the same and to seek remedies therefor through co-operation of the nation and the states.

"We agree that this co-operation should find expression in suitable action by the Congress within the limits of, and co-extensive with, the national jurisdiction of the subject, and complementary thereto, by the legislatures of the several states within the limits of, and co-extensive with, their jurisdiction.

"We declare the conviction that in the use of the natural resources our independent states are interdependent and bound together by ties of mutual benefits, responsibilities and duties.

"We agree in the wisdom of future conferences between the President, members of Congress and the governors of the states regarding the conservation of our natural resources, with the view of continued co-operation and action on the lines suggested. And to this end we advise that from time to time, as in his judgment may seem wise, the President call the governors of the states, members of Congress and others into conference.

"We agree that further action is advisable to ascertain the present condition of our natural resources and to promote the conservation of the same. And to that end we recommend the appointment by each state of a commission on the conservation of natural resources, to co-operate with each other and with any similar commission on behalf of the federal government.

"We urge the continuation and extension of forest policies adapted to secure the husbanding and renewal of our diminishing timber supply, the prevention of soil erosion, the protection of headwaters and the maintenance of the purity and navigability of our streams. We recognize that the private ownership of forest lands entails responsibilities in the interests of all the people, and we favor the enactment of laws looking to the protection and replacement of privately owned forests.

"We recognize in our waters a most valuable asset of the people of the United States, and we recommend the enactment of laws looking to the conservation of water resources for irrigation, water supply, power and navigation, to the end that navigable and source streams may be brought under complete control and fully utilized for every purpose. We especially urge on the federal Congress the immediate adoption of a wise, active and thorough waterways policy, providing for the prompt improvement of our streams and conservation of their watersheds required for the uses of commerce and the protection of the interests of our people.

"We recommend the enactment of laws looking to the prevention of waste in the mining and extraction of coal, oil, gas and other minerals with a view to their wise conservation for the use of the people and to the protection of human life in the mines.

"Let us conserve the foundations of our prosperity."

◈

A GOLDEN OPPORTUNITY
And Your Very Last Chance

to get a most remarkable picture of a most remarkable man. Look at your American History and size up what each President has accomplished. How many stack up with Roosevelt as a doer of deeds—as a mental giant? Mighty few! Whether you agree with him or not doesn't alter the fact that he is and always will be a Big Figure in American History. This wonderful composite photograph, showing President Roosevelt in nearly five hundred different attitudes, is really a photographic history of his entire career—a career which ranks with that of Washington and Lincoln in its activity and its accomplishment.

Isn't the possession of this photograph worth thinking about seriously, especially when the effort and cost are so trifling? See page 19 for particulars.



MRS. PEMBERTON'S MATRIMONIAL VENTURE

BY M. A. TAFT

JANE PEMBERTON, fair, plump, and forty, the best housekeeper in Mossville, its best woman of affairs and president of its only woman's club, sat in her comfortable sitting room, swaying back and forth as she rocked and read.

She read aloud in a subdued monotone, an amused smile on her face, and interrupting herself with chuckling comments.

"'Man proposes, but woman disposes.'

"Umph! Yes, I guess she does—disposes of his money as fast as she can.

"'All the world believes that in proposing matrimony it is the man who takes the initiative. This is not so.'

"Not so? I guess not. Most of the girls I know have so much initiative that if I was their mother they would get the slipper.

"'Man is a creature easily influenced. Any woman can marry any man if she takes the trouble to do so. The masculine mind—'" Here Mrs. Pemberton shut the book with an expressive bang.

"I never did know why our club was so anxious to have that woman come and talk to us," she said in a tone of disgust. "She certainly advertised her book well. And, as a matter of fact, she is not so altogether wrong about men. It is as easy to marry a man as it is to lead my old horse to water."

Mrs. Pemberton was looking from the window as she sat there, still swaying back and forth in her comfortable chair, and her remarks were influenced, to some extent, by what she saw, though from the unseeing look in her eyes and the whimsical expression on her face, it was evident that her thoughts were introspective.

"If horses only were as easy to manage as men," she cried, starting up, "my poor old Dobbin would not be over in Donald Grey's pasture this minute. There is Donald Grey himself down in our pasture gossiping with Helen, who, I'll warrant, has left the gate open.

"If ever there was a man who needed marrying, it is Donald Grey. He has more money than he knows what to do with, and he could double it if he would look after that big farm of his. And here am I with this bit of a place, and when I am gone Helen will not have enough to live on." An expression of deep tenderness came over her face as she spoke of Helen, only to be followed, as a sudden thought seemed to come to her, by a jolly smile, which made her eyes twinkle and brought out a dimple in either cheek.

"I'll do it," she said. "I'll do it. I'll marry Donald Grey myself. It will be a charity to him and I shall leave Helen with a comfortable home.

"Donald is serious enough to be fifty; I'm not so very much older than he is. Many men have been happy with wives older than they, and I'm 'a fine-looking woman.' I have Deacon Brown's word for it:

"'A fine-looking woman, Mrs. Pemberton, a fine-looking woman,'" she mimicked. "'I should be proud to introduce you as my wife.' He ought to know, for he has had two wives already—and five children. As if Jane Pemberton would go out as a nurse maid at her time of life! And Pastor Prentice says, 'Favor is deceitful and beauty is vain, but a good wife, her price is above rubies.'" Mrs. Pemberton was shaking with suppressed laughter as she returned the glance of her smiling face in the glass.

It was an unusually pleasing face. A smooth, fresh skin, bright eyes, bright color in the cheeks, a quantity of warm chestnut hair with not a thread of white in it, an expression of intelligence and shrewdness with a strong sense of humor made it the face of a woman with whom it would be a pleasure to live.

"And what will Mossville say!" Mrs. Pemberton threw back at her image in the mirror. "They have always said that Jane Pemberton was not a marrying woman. This will give them something to talk about."

Jane Pemberton was not a marrying woman and Jane Brown had not been before her. Mossville was right in thinking that. Jane Brown had been the kind of girl that Jane Pemberton was a woman. She was bright, jolly, competent, a first-class cook and housekeeper, but she did not care for the young men any more than she now, as a widow, cared for the older ones. It may have been this reason, together with her general competence, which brought her more proposals of marriage than any other girl in town, and which now, as a widow, made her seem equally desirable.

She would have nothing to do with any of the men.

Hiram Pemberton, however, was not easy to be rid of. He had qualities of bulldog persistency. He followed her everywhere and proposed to her upon every occasion. Finally she married him to be rid of him and because there did not seem to be any really good reason for refusing. She made him a good wife, lived comfortably with him, mourned comfortably after his death, but possibly felt only one very great regret—that he had not left more property to revert to their only child, Helen.

Like other women whose instinct for wifehood seems to be dormant, the maternal side of her nature was strongly developed and her love for her one daughter was almost passionate in its intensity.

Helen was just reaching young womanhood. She was a slender, sweet-faced girl, with warm chestnut hair a few shades darker than her mother's, dark gray eyes, a clear, pale skin, which, while showing only an occasional tint of color, did not betoken ill health. Her figure was delicately rounded. Whatever energy of character she possessed was kept in abeyance by her mother's superabundance of force. She possessed a disposition not to be spoiled by indulgence, and she idolized her mother.

They were the best of companions and friends. Jane Pemberton felt that she knew every thought of Helen's, and she was not far wrong in this. She felt that her daughter's nature was an open book to her, but undeveloped characteristics are not easy to divine. She was sure that Helen, with her quieter nature, was even less likely to marry than her mother had been. She lacked the business qualities which had enabled Mrs. Pemberton to obtain an income from her little place larger than that obtained by some of her richer neighbors. Unless well managed it would not bring in money enough to live on. This was an anxiety to the mother. Helen must be provided for and she must not be forced to marry if she did not wish to.

So it was that this suggestion that she had made laughingly to herself to marry Donald Grey began to appear feasible. The idea of bringing it about appealed to her instinct for management; the thought of the surprise it would be to the Deacon, the Minister and the entire Mossville Woman's Club, and the chagrin such an action would bring to the hearts of certain maidens, old and young, who had never been troubled with objections to matrimony, filled her with delight, which, if not exactly malicious, was certainly not sympathetic.

"I'll begin the campaign this very night," she said to herself. "One thing is fortunate, Donald is not likely to be sentimental, and he really does need some one to cook for him. I'm conscience stricken that I haven't looked out for him better all these years. It is not only a man's heart that is reached through his stomach—his temper and his head depend upon it altogether.



"Helen, who appeared at that moment, stopped in surprise"

"Helen, Helen," she called, going to the door. "Tell Donald that he is to stay for tea, for I am making waffles for him."

That was the beginning of a carefully laid plan of action, in which good cooking played a large part, and Jane Pemberton was an excellent cook.

Her matrimonial plans prospered beyond her wildest dreams. The neighbors said that Donald Grey spent the greater part of his time at the widow's house, and they were not far wrong. If they said more than this, Jane Pemberton did not know it, for she was the last person to whom even an intimate friend would repeat gossip. Her invitations to Donald were cordial, and if there was a shrewd twinkle in her eyes at his delighted acceptance, he did not see it. If she caught him looking at her sometimes with a little surprise when she pressed him to remain for dinner or tea, she turned away nonchalantly. She flushed if occasionally she caught this same expression upon Helen's face, but she reassured herself, saying in a tone of self-justification:

"It is for her sake, and I would do more than that for my Helen."

For three months they were a happy trio. Donald wandered with Helen when the widow was engaged with her household affairs, and in the afternoons and evenings they all sat together on the little piazza and discussed the affairs of the day. Mrs. Pemberton was surprised to discover the practical common sense which lay beneath her neighbor's dreamy exterior. Finally the climax came. It was matter of fact. Donald Grey was not, as Mrs. Pemberton said, given to sentiment.

"Mrs. Pemberton," he said, as they were sitting alone together one day, "I think you know that I would like to become a member of your family."

"Yes, Donald," Mrs. Pemberton answered simply, "and you are very welcome." Then she leaned over and kissed him on the forehead. Donald flushed slightly, caught Mrs. Pemberton's hand in his and gave it a warm pressure. Helen, who appeared at that moment, stopped in surprise.

"Helen," said the widow, "Donald wishes to become a member of our family. Is that satisfactory to you?"

"Yes, mama," answered Helen, and she, too, flushed a pretty rose color through her clear white skin. She crossed to bend over and kiss her mother, who embraced her warmly with that deep love light in her eyes that was always there when she looked at her daughter.

"There was some sense in what that woman said," Mrs. Pemberton remarked a little grimly to herself a few moments later, when she found herself alone, and if she caught her breath for a moment, when she thought of the results of the step she had taken, no one was there to see.

The engagement made no apparent difference in the life of the three, which went on as quietly as before. If Mrs. Pemberton was more quiet than she had been, there was so little change that no one noticed it. The few neighbors who had the temerity to approach the widow with regard to the engagement were cut short with the announcement that it was true, but that every one was to understand that there was to be no talk about it, and no one in Mossville would have ventured to ask another question.

Then once more Donald spoke in his quiet way, and the wedding day was set. It would be in another month, and Mrs. Pemberton turned her attention to clothes with all her accustomed energy. There would be no display; it would be a quiet wedding. It would be necessary to have a few new gowns, and Helen would have as many as her mother, or more. This was to be for her benefit anyway, and she was young and required pretty frocks.

Never in her life had Jane Pemberton worked so hard. Her energy was feverish and the strain began to tell upon her. That was what the neighbors said among themselves. The widow was losing her pretty plumpness, the color in her cheeks faded, she seldom laughed, and then almost hysterically. Helen grew womanly in looking after her mother's welfare, and Donald Grey was tenderly assiduous in his attentions.

"You are doing too much, mother," said Helen. "It isn't worth while. Give it up."

"No," and Jane Pemberton closed her lips firmly in the old determined fashion. "I have never been called a quitter, and I shall not be now," she said decidedly, and she meant more than Helen knew.

[CONCLUDED ON PAGE 18]

HOUSEHOLD DEPARTMENT



Dishes for All Days

ON SPRING and summer days there is nothing more delicious and appetizing than a well-made salad. For lunch or a light supper the stuffed-egg salad pictured on this page is especially recommended. To make it, cut hard-boiled eggs in halves crosswise. Remove the yolks; mash, and moisten them with melted butter or olive oil. Season with salt, pepper, mustard and a little vinegar. Shape in balls the size of the original yolk and refill the whites. The eggs may be made even more delicious by adding half the quantity of chopped chicken to the yolks, mashing them together and using the same seasoning as above, with the melted butter and olive oil for moistening. Arranged on leaves of lettuce, and garnished with radishes cut in fancy shapes, this salad is almost as good to look at as it is to eat.

Tomatoes are a great standby for salads when they are in season. They may be used simply sliced and arranged on lettuce leaves, or they may have the insides scooped out and be made delicious with almost any filling. They may be stuffed with green peas, with string beans, with celery, with cucumbers, with cold meat of any kind, provided it is mixed and cut into dice and well seasoned first. Cold carrots sliced are also a good filling.

What can be more delicious for breakfast than fresh raised biscuits or muffins? They are much more appetizing than the bread cut in slices which we eat during the day. Of course, raised mixtures when used for breakfast have to be mixed the night before, but one is amply paid for this slight trouble by the result.

FOR RAISED MUFFINS, add two tablespoonfuls of butter, one fourth of a cupful of sugar and three fourths of a teaspoonful of salt to one cupful of boiling water mixed with one cupful of scalded milk. When the mixture is lukewarm add one fourth of a yeast cake broken in small pieces, and when the yeast cake is dissolved add one egg well beaten, and four cupfuls of bread flour (once sifted, remember). Beat thoroughly, cover, and let rise over night in a temperature of sixty-five degrees Fahrenheit. In the morning cut down, and fill buttered muffin rings (set in a buttered pan) two thirds full, cover, and let rise until the rings are full, the time required being about thirty minutes, then bake thirty minutes in a hot oven. Remove from the rings, and arrange on a plate covered with a doily.

For IMPERIAL MUFFINS, add one half cupful of steamed and sifted squash, one fourth of a cupful of sugar, one half teaspoonful of salt and one fourth of a cupful of butter to one half cupful of scalded milk. When the mixture is lukewarm, add one fourth of a yeast cake dissolved in one fourth of a cupful of lukewarm water, and two and one half cupfuls of bread flour. Cover, and let rise over night. In the morning cut down, shape into small biscuits, and place in a greased pan near together, brushed between with a little melted butter, which will cause the biscuits to separate easily after baking. Cover, and let rise until the biscuits have nearly doubled in bulk. Bake in a hot oven thirty minutes.

Some Practical Laundry Suggestions

HERE is summer again and we all are wearing wash clothes. Do you find it difficult to keep yours fresh and unfaded? If so, here are some hints about the washing and ironing of them that may be of assistance to you.

Black lawns, percales, dimities and prints, also black satin underskirts, will not run or fade if spirits of turpentine, in the proportion of one tablespoonful to each pailful of water, is used in rinsing, after the garment has been washed. This same treatment is very effective with colored dresses, as the colors seem even brighter after the rinsing. Needless to say, colors like pink, green and lavender should never be rinsed in bluing water, for this will change their tones, and the blue tint can never be removed except by boiling, which would ruin a colored wash fabric. "Shepherd's plaid" retains always its fresh look if dipped in the boilerful of hot suds just before washing.

Use gum-arabic water or thin glue water instead of starch for black dresses, and starch made deep indigo by bluing for navy prints or linens.

Muslin dresses often become limp without being soiled. When this happens, the garment may be freshened without washing by sprinkling with gum-arabic water and ironing.

Always turn a dress wrong side out after starching, and dry it in a shady place as rapidly as possible. When completely dry, sprinkle, roll in a towel for a short time, then iron on the wrong side, finishing by pressing the rough seams and edges on the right side. It is always better to iron summer dresses on the wrong side, as they are then less likely to fade.



STUFFED-EGG SALAD WITH LETTUCE

Circular flounces, if ironed according to the straight threads of the material, will keep their shape and not sag. This is true also of gored breadths and piqué skirts. By using a tape measure, and pulling the skirt to its required length as you iron, the proper "hang" may be preserved.

Should any article become scorched by the iron, hang it in the sunshine, and the stain will generally disappear. White goods if badly scorched can be wet with cold water and laid on the grass in the sunshine. Repeated applications of water may be necessary before the scorch entirely disappears.

Before beginning to iron it is always well to see that the flatirons are perfectly clean. If they are not clean your ironing will have wretched results. Keep on or near your board a newspaper, on which to rub the iron every time you take one from the range, a soft cloth with which to wipe it around the edges, an iron stand on which to rest the iron when you find it necessary to move the goods, and a bowlful of cold water and a piece of white cotton with which to moisten any places that may become too dry to permit of being ironed smoothly.

Household Helps That Have Been Tried and Proved

THERE are many excellent uses for old cotton clothes. Dish cloths and wash cloths can be made from old shirt waists, and should be hemmed with a rather coarse stitch. Other cleaning cloths may be made from unworn portions of knit underwear, the edges strongly overcast. School handkerchiefs can be made from portions of old dimity dresses and waists, and a big pile of dusters all hemmed and clean is evolved from pieces of aprons and calico skirts. The large portions of nightgowns, if hemmed, make good towels for every-day use for the children. *One caution:* These made-overs should always be hemmed, otherwise, whenever one of the family wants a rag, a strip is torn from a large piece and the rest is wasted.

A plentiful supply of old newspapers, which have a thousand and one uses, should always be kept in the kitchen. Put some on the floor of sink closets, or on the nails if the frying pans are to be hung there. Place one on a shelf or table when about to put a hot pie plate, stew pan and bean pot there. Spread a few on the kitchen floor when it is still damp from washing, to prevent foot marks, and place several on the floor under your ironing board when ironing skirts. Paper the pantry shelves with them, and avoid frequent washing. Use them to rub grease from the stove and also to try the flatiron. As printers' ink seems obnoxious to moths, newspapers should always be used to wrap woolen garments in when they are put away for the summer.

Salt is useful in washing dishes. If spoons are slightly tarnished by eggs, or if a dish is slightly burned, apply a little salt to the dish cloth, and then wash.

Enemies of the Rose

BY PEARLE WHITE MCCOWAN

OF THE commoner plants and shrubs, perhaps the rose, both indoor and outdoor varieties, has the greatest number of enemies. Therefore, a little talk on how to eradicate a few of these pests may prove helpful.

The tiny red spider may be extirpated by spraying or syringing with hot soapsuds or quassia-chips tea. This last is prepared by soaking two or three ounces of the "chips" in a pailful of hot water for several hours. If too badly affected, strip off the leaves, taking care to burn every one, lest the plague spread, and wash the bare stems with one of the afore-mentioned liquids. These will need to be applied with a sponge tied to the end of a short stick, as they should be hotter than the hand can bear.

Cold quassia-chips tea is said to be an effective remedy for those troublesome little rose bugs which often infest the blooms of our favorite roses.

Pyrethrum powder or any good insect powder will prove effective in case of little white flies, if properly applied. The plants should be placed in a frame covered with muslin or paper, with one side arranged to open and close. Keep this side open until the plants are infested, then suddenly close and blow a cloud of the powder inside by using one of the little insect-powder guns.

The rose borer is a white worm from one fourth of an inch to an inch long, with a broad head. It is usually found in the heart of the wood, but the eggs are deposited just under the bark. In the spring, before growth begins, the stalks of bushes so infested should be gone over with a solution of fifteen grains of corrosive sublimate to a pint of water. Apply with a brush or feather. Needless to say, great care should be taken, as it is a deadly poison.

Mildew sometimes attacks roses. It is wise to discard all bushes greatly troubled with mildew, and replace by healthier kinds. But a top dressing of flowers of sulphur worked into the soil, and a mixture of lime and sulphur applied to the foliage with a dust bag, are recommended as good remedies when a plant is not too badly affected.

Ashes sifted over the bush while the dew is on, taking care that the under as well as the upper side of the leaves receives some, is a simple and often effective remedy for most of the insects which trouble the rose.

Lye of wood ashes in a mixture too hot for the touch of the hand, and sprinkled over leaves with a whisk broom, is also recommended.

If these fail to do the work, some of the commercial insecticides, such as bug scorch, sulpho-tobacco soap, or one of the nicotine preparations advertised in most floral catalogues and magazines, may be used according to directions.

Occasionally roses are attacked by green and white lice when they begin to send out the first tender shoots in the spring. If the plants are then liberally syringed or sprinkled with the hot suds of Monday's wash it will usually be found all that is necessary.



FISH BALLS

Cook together in boiling water one cup salt codfish picked in small pieces, and two cups diced potatoes. When the potatoes are quite soft, drain thoroughly, and mash. Add one half tablespoon butter, one egg well beaten, and one eighth teaspoon pepper. Beat with a fork for two minutes, then add salt. Take up by tablespoonfuls, put in frying basket, and fry in deep fat until well browned, then drain on brown paper. Arrange on hot serving dish and garnish with parsley.



RAISED MUFFINS WHEN PROPERLY MADE ARE BOTH TEMPTING AND DIGESTIBLE



DOUGHNUTS

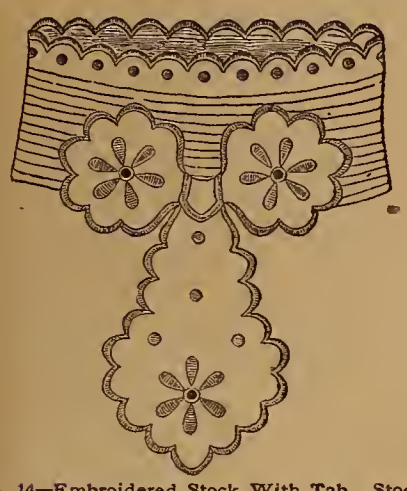
To 4 cups pastry flour (once sifted) add 1½ teaspoons salt, 1¾ teaspoons soda, 1¾ teaspoons cream of tartar and ½ teaspoon grated nutmeg. Work in ½ tablespoon butter, using the tips of the fingers; then add 1 cup sugar, 1 cup sour milk, and 1 egg well beaten. Mix thoroughly, and toss on a board thickly dredged with flour. Knead slightly, and roll to ¼ inch in thickness. Shape with a doughnut cutter, fry in deep fat until browned; drain on brown paper; dust with powdered sugar.



Embroidered Accessories

By Evelyn Parsons



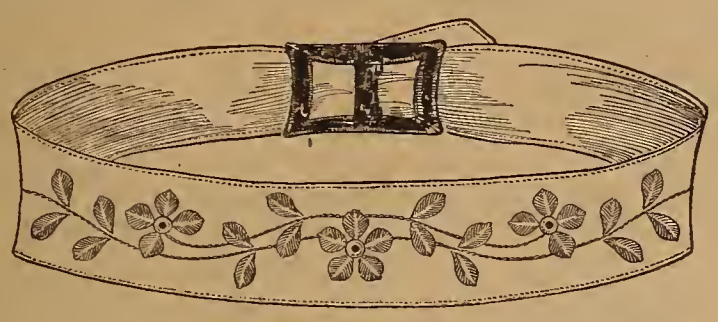


No. 14—Embroidered Stock With Tab. Stock Stamped on White Linen, 20 Cents. Tab Stamped on White Linen, 15 Cents

Stock No. 14, pictured on this page, matches belt No. 15. The stock is made of a piece of tucked white fine linen with embroidered scallops and dots at the top. The tab is made of two pieces of linen, a cross piece and an end piece. As the long end folds over the cross piece, it is necessary to embroider on the under side the portion that turns over. The stamping shows this very plainly. The belt of this set curves up at the middle of the back, a shape particularly good for a slight, long-waisted person.

Collar No. 12 and belt No. 13, which match, are worked in the buttonhole stitch described in a previous number. Two threads of the ball cotton are used.

The apron, No. 16, is made of sheer white lawn trimmed with lace. The embroidery may be in solid or shadow work. The flower centers are filled in with large French knots and the stems are feather stitched, as are the hem and the ends of the strings. Use two threads of the ball cotton for feather stitching and three for the shadow work and French knots.



No. 13—Embroidered Belt. Stamped on White Linen, 30 Cents

Both of the belts here shown are lined with a piece of linen or cotton cloth. They are stitched up on the wrong side, and then turned. There is a stamped line for the edges, and the stitching should run directly on this line. A row of machine stitching on the right side a little way from the edge will give a neat finish to the article. Always shrink the lining before stitching the pieces together.

Short-waisted people ought always to wear white belts with white shirt waists and skirts, as they do not accentuate the waistline.



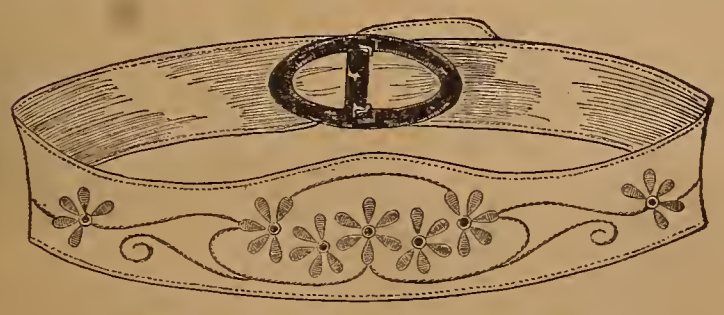
No. 12—Embroidered Collar. Stamped on White Linen, 20 Cents

The demand for hand-embroidered dress accessories is greater this summer than it has ever been in any previous season.

All of these articles may be embroidered in white or color. No. 14 is pretty with the buttonholing in white and the flowers and dots in color. A touch of color can be introduced into the apron by working the flower centers in yellow and the stems in green. Silk or mercerized cotton should be used for the color work. A dainty little apron of this style is very pretty for summer wear with linen dresses.



No. 16—"Sewing-Circle" Apron. Stamped on White Lawn, 35 Cents



No. 15—Embroidered Belt. Stamped on White Linen, 30 Cents

When Ordering Embroidery Patterns

IMPORTANT NOTICE—Remit by money order, currency or stamps. To the amount of any check drawn on a bank not in New York City, ten cents must be added for exchange.

We cannot be responsible for packages sent through the mail, unless the necessary stamps or money for registration are added.

Note—We ask you if possible to send postal money orders made payable to Farm and Fireside in preference to stamps.

Address "Embroidery Department," Farm and Fireside, Springfield, Ohio.

Singer Talks

7. Singer First Cost is the Whole Cost

¶ Of course you can buy a sewing machine for less money than you would pay for a Singer—all the world knows that. But consider this: When a Singer is bought and paid for, *it is paid for*—it lasts a lifetime.

¶ A cheap machine is *never* paid for. Every cent expended for repairs must be added to the original cost—it's an endless system of instalments. These instalments, added to the first cost of the machine, soon exceed the cost of a Singer, and after each successive repair (*if* you *can get* another part) the cheap machine grows more and more second-hand—one step nearer the junk heap.

¶ The time lost, the trouble and the worry outweigh many times over the difference in the cost between the "cheap" machine and the Singer.

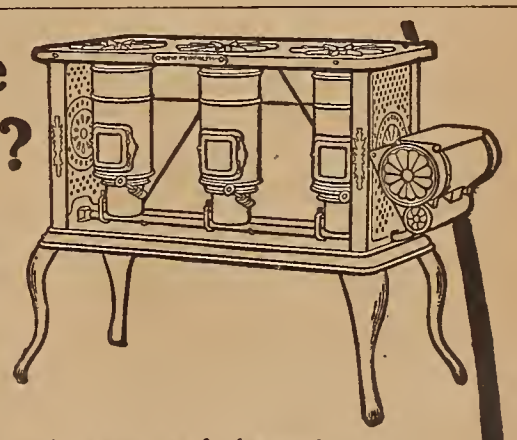
¶ There are two kinds of machines—good and bad—and the good kind is the Singer.

Sold only by

Singer Sewing Machine Company

If a Singer Store or Singer Salesman is not available, address us at Room 1130 Singer Building, New York City

What Stove for Summer?

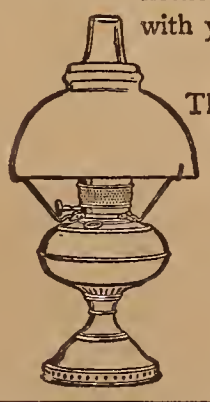


Nothing adds to kitchen convenience in summer weather like a New Perfection Wick Blue Flame Oil Cook-Stove. Anything that any stove can do the "New Perfection" will do, and *do it better.* Bakes, roasts, boils, toasts; heats the wash water and the sad irons, and does it without dissipating its heat through the room to *your* discomfort. The

NEW PERFECTION

Wick Blue Flame Oil Cook-Stove

actually keeps the kitchen cool—actually makes it comfortable for you while doing the family cooking, because, unlike the coal range, its heat is directed to one point *only*—right under the kettle. Made in three sizes, fully warranted. If not with your dealer, write our nearest agency.



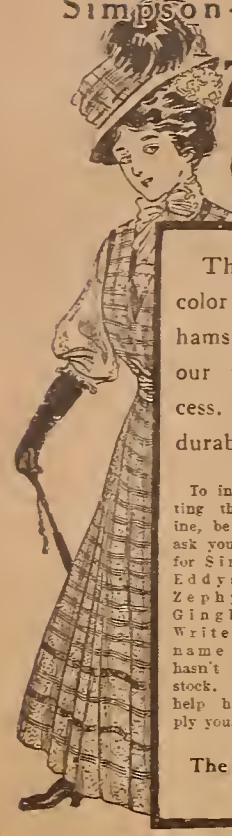
The **Rayo LAMP** affords a mellow light that is very grateful to tired eyes—a perfect student or family lamp. Brass, nickel plated, hence more durable than other lamps.

If not with your dealer, write our nearest agency.

STANDARD OIL COMPANY
(Incorporated)

It is to your advantage to mention Farm and Fireside in writing to advertisers. Farm and Fireside folks get the very best attention.

Simpson-Eddystone



Zephyrette Ginghams

These remarkable fast-color Zephyrette Ginghams are the result of our new scientific process. Unusually stylish, durable and economical.

To insure getting the genuine, be sure to ask your dealer for Simpson-Eddystone Zephyrette Ginghams. Write us his name if he hasn't them in stock. We'll help him supply you.

New Process Dress Ginghams
SIMPSON
TRADE MARK
REG. U.S. PAT. OFF.
EDDYSTONE
Zephyrettes

The Eddystone Mfg. Co.
Philadelphia

1 to 3

Saving a cent on a paper of pins and buying three papers, is poor economy; when *one* paper of

STEWART'S
DUPLEX
SAFETY PINS

will outlast three of any other kind. They are the best because the stiffer wire doesn't bend, and they stay fastened. The sharp points and the guarded spring prevent tearing the cloth. Fasten from either side, but can't slip through. The only pin that guarantees safety and comfort.

If your dealer does not keep them, send us his name and address with four cents in stamps for samples, retailing for twice the money. Examine them carefully, and you'll always ask for Stewart's Duplex Safety Pins. See that all cards bear the name of

CONSOLIDATED SAFETY PIN CO.
169 Farrand St. Bloomfield, N. J.

ALLEN'S FOOT-EASE
Shake Into Your Shoes



Allen's Foot-Ease, a powder for the feet. It relieves painful, swollen, smarting, nervous feet, and instantly takes the sting out of corns and bunions. It's the greatest comfort discovery of the age. Allen's Foot-Ease makes tight-fitting or new shoes feel easy. It is a certain cure for ingrowing nails, sweating, callous and hot, tired, aching feet. We have over 30,000 testimonials. TRY IT TO-DAY. Sold by all Druggists and Shoe Stores, 25c. Do not accept any substitute. Sent by mail for 25c. in stamps.

FREE TRIAL PACKAGE sent by mail.

MOTHER GRAY'S SWEET POWDERS, the best medicine for Feverish, sickly Children. Sold by Druggists everywhere.

"In a pinch, use Allen's Foot-Ease."

Trial Package FREE. Address
ALLEN S. OLMSTED, Le Roy, N. Y.

Limited Summer Offer

If you will send us only 10 cents for a subscription to Farm and Fireside from now until next December—eleven numbers—for one of your friends or neighbors, we will send you by return mail, absolutely without cost, a fine mezzotone photograph of President Roosevelt, composed of 500 different pictures, 13½ x 20½ inches.

You can get almost anyone to give 10 cents for eleven numbers of Farm and Fireside.

This offer is open to you for the renewal of your own subscription as well.

We cannot guarantee to furnish the Roosevelt picture after July 15th, as the supply is limited.

FARM AND FIRESIDE, SPRINGFIELD, OHIO

DAISY FLY KILLER placed anywhere, attracts and kills all flies. Neat, clean, ornamental, convenient, cheap. Lasts all season. Absolutely harmless, cannot spill or tip over, will not soil or injure anything. Guaranteed effective. Of all dealers or sent prepaid for 20 cents.



HAROLD SOMERS
149 DeKalb Ave.
Brooklyn, N. Y.



PARKER'S HAIR BALSAM
Cleanses and beautifies the hair. Promotes a luxuriant growth. Never Fails to Restore Gray Hair to its Youthful Color. Cures scalp diseases & hair falling. 50c. and $1.00 at Druggists.

It is to your advantage to mention Farm and Fireside in writing to advertisers. Farm and Fireside folks get the very best attention.

Miss Gould's Fashion Page



Greek Band for the Coiffure

THE Greek band, or fillet, is the new finishing touch to the fashionable coiffure this summer, and this is all because the Grecian tendency is the new idea in the fashions. Classic, simple forms of dress are in evidence in many of the French fashion creations. Of course, we practical American women are glad that Dame Fashion is turning her head away from lavish elaboration, but as yet we are not prepared to dress in the clinging draperies of a Greek goddess.

IF THE new summer gowns have a conspicuous note at all this year it is in their trimmings, which seem to stand out in bold relief. Much soutache in all widths and heavy cotton braid are used, in white and dyed to match the fabric. In the skirt-and-coat suits the outline of the coat is shown by the line of braiding, and either braid or buttons not infrequently trim the back.

Very narrow satin plaitings are much used as a trimming for silk voile and net gowns. They are often introduced in some brilliant shade, such as Empire green, on a gown of neutral tint. Plaitings of this style frequently simulate a bib effect on the bodice and outline a tunic effect in the skirt.

Buttons are used not only where they are needed, but where they are not needed on the new gowns. For the tailored suits there are the fabric-covered buttons and the braid buttons.

Cretonne-covered buttons are used as a trimming for some of the duck and linen dresses.

In all the trimmings shown it is quality, not quantity, that counts. The trimmings have never been so beautiful as they are this season. Gold lace braid is a novelty, and silver tinsel worked on a cretonne background, defining the design, are often used. In the colored braids threads of silver are often interwoven.

THE striped linens, the bordered ginghams and the wonderfully lustrous new rough silks are the materials in special favor for the summer.

For the skirt-and-coat suit striped linen will be much used. White twill linen is also in fashionable favor. In fact, the twill weave is conspicuous in many of the newest fabrics.

It is surely no wonder that gingham is a fashionable fabric this season, for never before have there been ginghams so charming in design and so exquisite in coloring as they are to-day.

The new bordered ginghams, many of them showing a lace stripe effect, are attractive when used in fashioning the one-piece dress.

Any number of printed cottons will be worn showing a pretty design in color, and as for the cotton batistes and cotton voiles, they are not only lovely to look at, but they are quite within the range of the average woman's purse. The mohairs and panamas in shadow stripe effects are excellent materials to choose for the summer traveling skirt-and-coat suit. They wear well and shed the dust easily.



The Collar Spreaders Which Adjust Themselves to Any Height of Collar

A COLLAR supporter which adapts itself to both a high and a low collar is the latest. When using this collar holder, which is also known as a spreader, adjust it so that the wide part comes up. When the collar is high you bend the two pieces of the holder close together; when it is to be worn in a low collar you spread them apart. This collar holder is of plated gold on silver, with pearl tops, which unscrew when it is being adjusted. Price twenty-one cents a pair.

Miss Gould will gladly send a personal letter to any subscriber of Farm and Fireside who wishes to know where the collar spreaders and tin renovator illustrated on this page may be purchased. She cannot, however, buy any of these articles for them, but will promptly send the name of the shop where they may be obtained, provided a stamped and self-addressed envelope is sent, which should be directed to Miss Gould, care of Farm and Fireside, 11 East 24th Street, New York City.



No. 1151—Surplice Waist With Tucked Sleeves

Pattern cut for 32, 34, 36 and 38 inch bust measures. Quantity of material required for medium size, or 36 inch bust, four and seven eighths yards of twenty-two-inch material, or three and three fourths yards of thirty-six-inch material, with one yard of tucking.

No. 1152—Skirt With Pointed Overskirt Effect

Pattern cut for 22, 24, 26 and 28 inch waist measures. Length of skirt all around, 42 inches. Quantity of material required for medium size, or 26 inch waist, nine and three fourths yards of twenty-two-inch material, or six and one fourth yards of thirty-six-inch material.

IF YOU are planning to have one silk dress in your summer wardrobe, I am sure you will like the pretty surplice design illustrated on this page in costume Nos. 1151 and 1152. It is an excellent model for a foulard or a taffeta gown.

THE new rough silks, which are known by so many names this summer, are especially fashionable. They will be used for the princess dresses made in tailored style, and also for the skirt-and-coat suits. In silks the twill weave is a novelty. Twill Tussah and twill pongee will be much worn.

The bordered foulards and the bordered taffetas are also good style, and the India silks showing effective stripes that are not too pronounced in their coloring are also in favor.

SOME charming new designs are shown in combination of Copenhagen blue and white instead of the popular navy blue. There are also dark smoke grounds with bright figures and scroll effects in cerise, peacock or mahogany. Just now special favor is given to all sorts of black-and-white-striped silks. Sometimes the stripes are very fine and used in clusters, while in other silks the shadow effects are preferred. Pipings of plain taffeta in strongly contrasting color are used on these striped suits, and frequently the trimming consists of buttons covered with silk to match the pipings.



Neck Bow With Long Knotted Ends, Made of Brown-and-White-Checked Taffeta, With Dark-Brown Satin Border, Suitable to Wear With a Tailor-Made Shirt Waist

WITH a little ribbon the summer girl can do much, if she only knows how. The girl who has a small amount of money to spend on her clothes will find that ribbons lend her a helping hand in their planning. It is really the neck bow and belt that give the smart touch to the shirt waist, and the plainest of white summer gowns may be changed, as if by magic, by the arrangement of a sash or the clever adjustment of ribbon bows.

All sorts of bows are fashionable right now—big bows with wide, outspreading loops, and tiny bows in butterfly shape. Huge bows of ribbon loops are used on many of the prettiest of the new hats, and sashes haven't been so fashionable in years.

Now that ribbons play so important a part in the fashionable dress accessories, it is easy to see why the new ribbons designed for this year's summer girl are lovelier than ever before. They come in warp print floral patterns and look like yards of exquisite blossoms; they come striped, of course, to keep pace with the dominant fabric note; they come brocaded in the loveliest of self colors; they shimmer and shade in ombré tints; they show wide moire stripes with narrower stripes of plain satin, and they show checks, dots and borders.

THE big shops are showing at present many novel accessories in the way of small round ruches or boas made of feathers, chiffon, lace, net or fluted silk, finished with a fetching little bow knot of velvet or silk ribbon, which is worn in the center of the back, but is sometimes shifted about from one side to the other. It is also worn in the front of the neck instead of the back. These dainty bows are exceedingly lovely made of ostrich or coq feathers, but are, however, equally attractive developed in any of the above-mentioned materials. The woman who wishes a boa in this style can make one with but little expense, as the ruching in silk net or chiffon can now be bought by the yard, all ready to be made up into boas. They are very easy to make. The ruche is simply attached to a piece of ribbon the correct width of the neck, and fastened with medium-sized hooks and eyes. An attractive bow knot of the corresponding color is then stitched to the ruche to cover the joining. If desired, a similar bow knot may also be attached to the front of the ruche. A ruche of this kind is obtainable in almost any color, and gives a chic and charming touch to one's costume.



A Useful Ribbon, Velvet and Feather Renovator Which May Be Adjusted to Any Kettle

FOR twenty-five cents you can do your own renovating at home, such as cleaning laces, ribbons and velvet, and recurling ostrich plumes and feather boas. The quarter will buy the new tin renovator here illustrated, which may be easily adjusted to any kettle.

Fashionable Patterns for Summer Days



No. 953—Woman's Bathing Suit
Sizes 32, 36 and 40 inch bust measures.

THIS style corset cover will be found extremely useful to wear under lingerie waists, the little puff sleeves making it possible to use dress shields and not have them show. The shields should be fastened inside the corset cover.



No. 1155—Corset Cover With Short Puff Sleeves
Pattern cut for 34, 36, 38, 40 and 42 inch bust measures. Quantity of material required for medium size, or 38 inch bust, two yards of twenty-two-inch material, or one and one half yards of thirty-six-inch material.



No. 747—Housewife's Apron
Sizes 32, 36 and 40 inch bust measures—small, medium and large.



No. 922—Tucked Lingerie Waist With or Without Yoke
Sizes 32, 34, 36 and 38 inch bust measures.

THE prettiest of the filmy lingerie waists this summer show a touch of color. Sometimes the sheer lawn itself is striped, and then again the color note is introduced merely in an embroidered design. Yoke effects are extremely fashionable.



No. 1149—Misses' Waist With Tab Bertha
Sizes 12, 14 and 16 years.

No. 1150—Misses' Plaited Skirt With Flounce
Sizes 12, 14 and 16 years.



No. 967—Double-Breasted Shirt Waist
Sizes 34, 36, 38 and 40 inch bust measures.

No. 968—Nine-Gored Walking Skirt
Sizes 24, 26, 28 and 30 inch waist measures.



No. 1148—Plastron Shirt Waist
Sizes 34, 36, 38 and 40 inch bust measures



No. 758—Sailor Blouse Suit
Sizes 4, 6 and 8 years.

SPRING AND SUMMER CATALOGUE OF

MADISON SQUARE PATTERNS

Our new summer catalogue cannot help but be invaluable to the woman who makes her own clothes. We will send it to your address for four cents in stamps. Order patterns and catalogue from the Pattern Department, FARM AND FIRESIDE, 11 East 24th Street, New York City.

Full descriptions and directions are sent with the pattern as to the number of yards of material required, the number and the names of the different pieces in the pattern, how to cut and fit and put the garment together, and also a picture of the garment as a model to go by.

THE PRICE OF EACH PATTERN IS 10 CENTS

When ordering be sure to comply with the following directions: For ladies' waists, give bust measure in inches; for skirt pattern, give waist measure in inches; for misses and children, give age. To get bust and breast measures, put a tape measure all the way around the body, over the dress, close under the arms. Order patterns by their numbers. Satisfaction guaranteed or money refunded.

OUR LATEST LIBERAL OFFER

We will give any two of these patterns for sending two yearly subscriptions to FARM AND FIRESIDE at the regular price of 25 cents each. Your own subscription may be one of the two. When ordering, write your name and address distinctly. We will send FARM AND FIRESIDE one year, new or renewal, and any one pattern for only 30 cents.



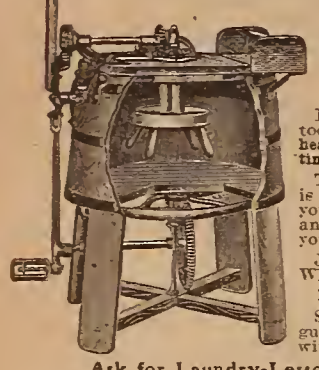
No. 777—Child's Bathing Suit
Sizes 4, 6, 8 and 10 years.

Copyright, 1908, by The Crowell Publishing Company

Every Monday

you draw a dividend from your investment in the

White Washer



It's a big dividend too, for it's paid in health and comfort and time.

The investment itself is paid back in the soap you save and the wear and tear of clothes that you avoid.

Just try washing the White Way.

It means something.

So does the five-year guarantee which goes with every machine.

Ask for Laundry-Lessons FREE

WHITE LILY MFG. CO.

1512 Rockingham Rd., Davenport, Iowa

From the Owners Direct to You!

CHOICE FARMING LANDS at low prices and on long time and easyterms, any sized Farm or Tract.

IN MINNESOTA & WIS.



In the Clover and Dairy Country, near the Twin City and Lake City markets, where there is timber, clear sparkling lakes and streams, and the finest climate in the world, and where we will sell you selected Lands at from $8 per acre up.



IN N. DAKOTA! In Dunn County, a rich wheat growing section, where farmers can start with small capital, where new Railroads are sending values up rapidly, where coal is abundant and easily mined, and where we can sell you choice Lands at from $10 per acre up.

Write to us. Tell us where you want to go. We will send you Maps and illustrated descriptive matter on any section. You will make no mistake in dealing with us. We've been locating Homeseekers for many years. Capital, $500,000, paid.

THE NORTHERN BLUE GRASS LAND CO.,

Room 25, 4th and Jackson Sts., ST. PAUL, MINN.

101 Washington St., CHICAGO, ILL.

From the Owners Direct to You!

WESTERN CANADA WHEAT LANDS

Abound in opportunity for the alert: are making fortunes for the careful investor and the intelligent farmer; afford an opportunity to start farming with but small outlay. Western Canada is making marvelous strides and her lands producing magnificent crops.

WHEAT YIELDS

Average Bushels Per Acre, Govt. Statistics

	1901	1902	1903	1904	1905	1906
Sask.	25.41	22.57	19.44	17.51	23.09	21.40
Alts.	24.58	18.36	18.65	16.58	21.46	23.85
Kas.	18.5	10.4	14.1	12.4	13.9	15.1
N. Dak.	13.1	15.9	12.7	11.8	14.0	13.6
Iowa	16.2	12.7	12.4	11.6	14.2	15.7

It is because Western Canadian lands produce more and cost very much less that they are good buying and the shrewd investor and intelligent farmer are taking hold of them.

Our lands lie east of Warner in Southern Alberta, east of Stettler in Central Alberta, and in the Eagle Lake, Tramping Lake and Cut Knife districts of Central Saskatchewan. Prices from $7.00 to $15.00 per acre; terms easy. Information gladly given upon request.

CANADA LOAN AND REALTY COMPANY, Limited

315 McIntyre Block Winnipeg, Canada

Enjoy Yourself This Summer!

Let us help you. We are giving away cameras, hammocks, fishing outfits, baseball outfits, phonographs, violins, mandolins, guitars, banjos, roller skates, and hundreds of other things that will add to your happiness, as well as lots of useful and handsome things for the home. You can get any of these for just getting a few of your friends and neighbors to subscribe to FARM AND FIRESIDE—and that will be very easy. Write to-day for our big, free catalogue of over 250 illustrated articles.

MERCHANDISE PAYMENT DEPARTMENT

Farm and Fireside Springfield, Ohio

COWS IN CLOVER



FREE! A Book on the great Dairy Country in NORTHERN MINNESOTA

Send me your address. In Meadowlands Settlement, choice lands for $1.00 per acre, down, balance 15 years. Write

LAND COM'R, D. & I. R. R. R. CO.

552 Wolvin Bldg. Duluth, Minn.

This Book may point your way to fortune. Who can tell?

All About Texas

Oklahoma, Arkansas, Louisiana, New Mexico. Homes for the homeless, prosperity for the industrious. The home builders' guide. Send stamp for sample copy.

FARM AND RANCH, Dallas, Texas.

CALIFORNIA Irrigated Fruit, Alfalfa Farms. Easy payments. Special offer. New Gov't aided canal. Catalog free. Wooster, 702 Market St., San Francisco.

PINEAPPLE LAND FOR SALE. Very choicest on Indian River, where more pineapples are grown than any other place in the world. Reasonable prices. J. F. POWELL, MELBOURNE, FLORIDA

PATENTS that PROTECT

Our 3 books for inventors mailed on receipt of 6 cts. stamps R. S. & A. B. LACEY, Rooms 28-38 Pacific Bldg. Established 1869. Washington, D. C.

PATENTS Inventor's Book Free. Trade Marks BEELER & ROBB, 93-95 Baltic Building, Washington, D. C.

Agents Wanted

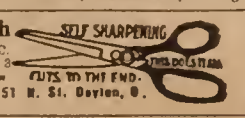
AGENTS $300 Every month selling our wonderful SEVEN PIECE KITCHEN SET

Send for sworn statement $12 daily profit. Experience unnecessary. Outfit free. F. Thomas Mfg. Co., 751 N. St., Dayton, O.

AGENTS, $36 A WEEK EASILY MADE SELLING OUR Pillow Tops, Stereo Views, Portraits and Frames. Largest picture house on earth. No capital required. 30 days' credit. SAMPLES AND CATALOGUE FREE. FRANK W. WILLIAMS CO., 1285 Taylor St., Chicago.

AGENTS PORTRAITS 35c, FRAMES 15c, sheet pictures 1c, stereoscopes 25c, views 1c. 30 days credit. Samples & Catalog Free. Consolidated Portrait Co., 290—81 W. Adams St., Chicago

Agents $103.50 per month selling these wonderful Scissors. V. C. Gleboer, Columbus, O. sold 22 pairs in 3 hours, made $13; you can do it, we show how. Free Outfit. F. Thomas Mfg. Co., 51 N. St. Dayton, O.



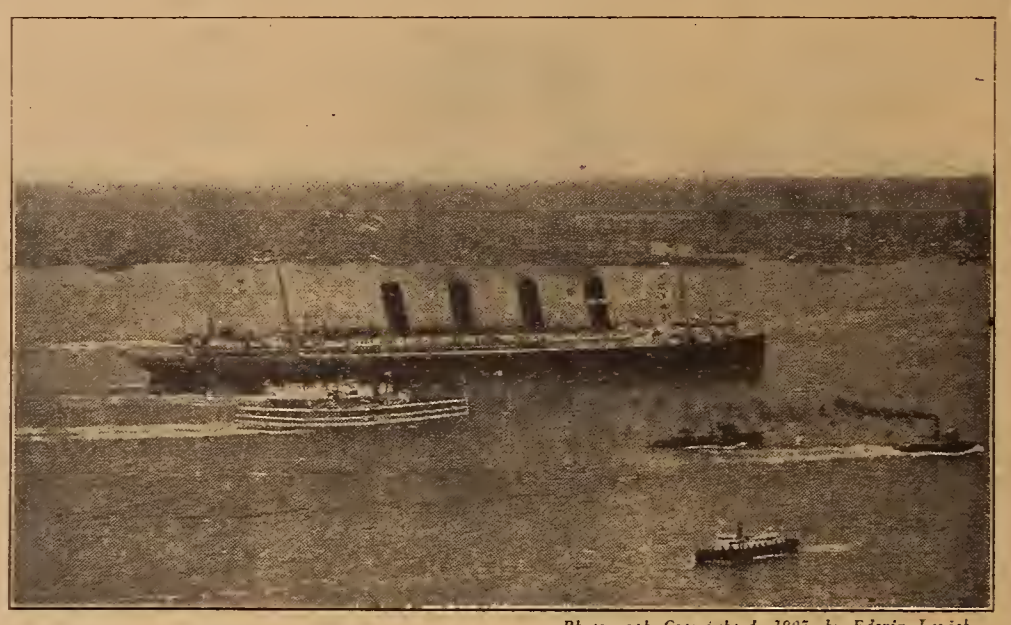
It is to your advantage to mention Farm and Fireside in writing to advertisers. Farm and Fireside folks get the very best attention.

The Wonders of the Big Transatlantic Liners

Ships That Are as Comfortable as the Finest Hotels and That Come and Go With the Sureness of the Tides

One of the speakers at a recent banquet given on board one of the great new transatlantic liners remarked that he had spent more than an hour inspecting the many new features contained in the ship, and that, barring a bridle path for the equestrian, a smooth road for the automobilist, and a forest for lovers to walk in, everything else seemed to have been provided. And this is quite literally true. Even an Aladdin with a magical lamp could scarcely wish for anything that cannot be found on these marvelous new vessels. They are veritable fairy palaces of comfort and luxury. Indeed, the only difference between the great new ships and the finest hotels is that you can't "get off and walk!" This fact, however, need not prevent one from getting adequate exercise, for it takes only a few turns on the broad promenade deck to make a mile. And if one is so disposed, there is the gymnasium, with all sorts of apparatus to keep the muscles in trim; and in one or two of the newer boats there are swimming pools where the sea water that is pumped in is kept at a comfortable temperature for a refreshing swim.

On wet days, when it is impossible to be on deck, there are the libraries and music rooms to furnish amusement. In the reading rooms on some liners you will find a full array of the classic novels and some of the modern ones, besides current numbers of English, German and American magazines.



Photograph Copyrighted, 1907, by Edwin Levick

THE GIANT LINER, "LUSITANIA," STEAMING INTO NEW YORK HARBOR

In the old days—but not so very long ago, at that—meals were served at stated times on board ship. In the dining room were great long tables accommodating twenty or more persons. At that time the honor of sitting at the captain's table was a privilege greatly sought after. Now all is quite different. Instead of the long tables are many small ones, where one may be alone or with one's own party. Here may be ordered anything that can be desired at any time of the day.

The cabin accommodations have also been greatly bettered, and in some rooms there are brass bedsteads instead of bunks. In a first-class cabin there is room for three persons with very little crowding—two in the bunks or beds and one on the couch. All of the bed linen is of the finest and the coverings are downy and luxurious. There are a number of suites on each ship with private baths. Each room is equipped with electric lights and telephone. On some of the larger vessels, that are, so to speak, several stories high, there are elevators to carry one up and down stairs.

Each ship is a little city in herself. There is room on board for the whole population of a large-sized village. Indeed, it is no uncommon thing for a liner to carry four thousand or five thousand people on one trip. These little cities afloat are commanded by a captain, who under the English maritime law is a magistrate at sea. He may, if he wishes, perform marriages on board that are just as binding as those performed by the civil magistrate on shore. He may require persons of suspicious appearance to keep to their rooms, and order force to be used if they disobey. But isolated as this floating community would seem to be, it is nevertheless kept in daily communications with the ports on both sides of the ocean and with other vessels in the lanes of transatlantic travel by means of its wireless telegraph equipment.

To those of us who are of a practical turn of mind the idea will occur that it must take a small fortune to run one of these great vessels across the ocean. Indeed this is so. It has been estimated, for example, that it costs the Hamburg line about forty-five thousand dollars to run one of its liners across the seas. This is scarcely surprising when one considers that the coal necessary to make the steam that drives the ship on her way costs five thousand dollars a trip. There are, too, big bills for lubricating oil, and the immense ship's laundry, which contains from eighteen thousand to twenty-four thousand pieces of linen, such as napkins, sheets, waiters' coats, etc. Then the item for wages is a large one, since the crew may number anywhere from four hundred to six hundred and fifty. While we are examining statistics, let us look at these interesting ones from the commissary department of the Hamburg line.

The figures here given are for a combined passenger and crew of four thousand persons on a seven and a half days' trip of the company's new steamship, the "Amerika."

For this vessel the following provisions are provided for a single trip: Thirty-two thousand pounds of beef, mutton, lamb, veal and pork; 7,500 pounds of game and poultry, 3,500 pounds of fresh and 250 pounds of smoked fish; 7,500 pounds of assorted fruit, 36,000 eggs, 80 cases of oranges, 12,000 pounds of fresh bread, and about $450 worth of fresh vegetables. For the outward and return trip there would also be required 9,000 pounds of canned meats, 3,600 pounds of salted meat, 4,850 pounds of ham, sausages, smoked meat and tongue; 1,800 pounds of bacon, 5,000 pounds of butter, 4,500 pounds of cooking butter, 3,600 pounds of cheese, 50,000 pounds of flour, 15,000 pounds of rice, etc.; 4,000 cans of vegetables, 4,100 pounds of coffee, 300 pounds of tea, 3,500 pounds of sugar; 8,000 quarts of milk and cream, 4,000 pounds of sauerkraut, and 20 tons of herrings. There would be required to quench the thirst, 15,000 quarts of beer in kegs and 1,200 bottles of beer; 960 quart and 1,300 pint bottles of champagne, 1,260 quart and 900 pint bottles of Bordeaux and Burgundy wines, 1,680 quart and 1,400 pint bottles of Rhine, Moselle and Saar wines; 3,500 quart and 6,000 pint bottles of mineral waters, and 950 bottles of liquors and spirits.

The demand for greater speed has been answered by the new giant steamships of the Cunard line, the "Lusitania" and the "Mauretania." On her maiden trip the "Lusitania" clipped six hours and twenty-nine minutes from the former transatlantic speed record, making the trip from Queenstown to Sandy Hook in five days and fifty-four minutes. Since then the "Mauretania" has made the trip from New York to Queenstown in four days, twenty-two hours and twenty-nine minutes!

The driving power that sent the "Lusitania" across the Atlantic so swiftly and smoothly is a battery of turbine engines. The primary principle of this type of engine is that the steam is blown upon revolving blades as the wind blows upon the sails of a windmill. This sets up at once a continuous circular motion instead of the to-and-fro motion of the old-style reciprocating engine. This continuous motion, it is claimed by the inventors, produces more power per pound of coal than the old reciprocating engine, and there is an entire absence of the vibration which has so long been the terror of squeamish travelers by sea.

Wit and Humor

He Knew

The teacher had been training her pupils in anticipation of a visit from the school commissioner. At last he came, and the classes were called out to show their attainments.

The arithmetic class was the first called, and in order to make a good impression the teacher put the first question to Johnny Smith, the star pupil.

"Johnny, if coal is selling at six dollars a ton, and you pay the coal dealer twenty-four dollars, how many tons of coal will he bring you?"

"Three," was the prompt reply from Johnny.

The teacher, much embarrassed, said, "Why, Johnny, that isn't right."

"Oh, I know it ain't, but they do it anyhow."—Harper's Magazine.

◈

Second-Hand Goods

A small city child, on visiting the country for the first time, was taken to the barn to see the milking. She was much amused, but refused to drink any milk during her visit because "she did not want it after the cow had had it."—Harper's Magazine.

◈

A Hint for Parsons

"A Springfield clergyman is telling a story of his last vacation, which is probably better appreciated by his fellows who have served the Lord in the villages than those members who have ministered only to city charges," says an exchange. "'I took over a pulpit in a little country town about twenty miles from here,' he says, 'conducted the services to an end, then waited for the usual invitation to dinner. Because of some reason, it did not come. I was hungry as a bear, so finally, in desperation, I approached a prosperous-looking farmer, whom I had met before the service, and said, "Brother, won't you come home to dinner with me?"

"'"Gladly, Parson," he answered. "Where do you live?"

"'"About twenty miles from here," I answered as airily as possible.

"'For one moment he looked dumfounded; then he saw the fun of the situation, and his hard old face broke into a thousand wrinkles as he grasped my hand, and said, "Parson, let's go over to my house for dinner. It's a heap nearer than your'n."'"

◈

A Distinction

"Oh, must you go, my darling?"
Said Clementine to Joe.
"Well, not exactly that, but I
Must begin to go!"

—Harold Susman.

◈

An Untaught Cow

Down on a Southern plantation the dairy hands were accustomed to do the milking squatting down in a primitive fashion, until the owner introduced milking stools and other improvements. But the initial experiment with the innovation was not exactly a success. The darky who first sallied forth with the stool returned bruised and battered and with an empty pail.

"I done my best, sah," he explained. "Dat stool looked all right to me, but de blamed cow, she won't sit on it."

◈

A Natural Inquiry

Wife—"What do you think of my new hat, dear?"

Husband—"Fine. How much was it an acre?"

◈

He Wanted to Know

"Pa!"

"Well, my son?"

"Pa is it really true that grandpa used to do as much work before breakfast as we do in all the day?"—T. P. M.

◈

Why Not? He's a Man

While James Jeffrey Roche was having a chat with President Roosevelt in the White House not long ago, the telephone bell was ringing somewhat persistently. There being no attendant at hand, the President excused himself and went to answer the repeated call. This is the conversation that took place on the line, according to the testimony of Mr. Roche:

"Well, what is it?"

"Hello. Is Archie there?"

"No, he's not."

"Who's this I'm talking to?"

"The President."

"Well, you'll do. Tell Archie to come over and play ball."

And the President proceeded to execute the order as directed.

Our Young Folks' Department

Esther's Adventure

BY HANNAH G. FERNALD

Nobody but Esther knew that all the trees in the wood lot had names, and that the great pine near the center, towering high above the others, was the King. All summer long Esther played the quiet games of a solitary child under the King's shadow, listening to the singing of the wind in his branches; and when winter came, and she must stay shut up in the cozy farmhouse, she thought longingly of her tall friend in the wood lot. Sometimes a red squirrel frisked about the maples in the dooryard, and Esther wondered whether he could be a messenger sent by the King to inquire about her.

"Tell him I'm well," she called, softly, to the squirrel, who struck an attentive attitude, and gazed at her with his beady eyes. "Tell him I'll come back when the snow is gone. Give him my love."

Her Cousin Peter, who was visiting at the farmhouse with his mother, heard the message, and demanded an explanation, which Esther gave timidly. She had never talked about the King, and now, when she heard Peter's peals of laughter, she determined that nothing should ever make her mention him again.

"The child is too much alone!" Peter's mother said that night to Grandma Safford.

"Isn't she happy?" Grandma asked, placidly.

"Why, yes," admitted Aunt Sue, "she seems to be happy enough in her queer way."

"Isn't she good?" proceeded Grandma.

"Of course she is!" Aunt Sue said, more decidedly. "A better-behaved little girl I shouldn't ask to see!"

"Well, then," said Grandma, conclusively.

And though Aunt Sue shook her head unconvinced, Esther returned with the first really warm days to her happy solitude in the wood lot.

When the last week of June had carpeted the ground with the lovely blossoms of the partridge vines, Esther stole softly among the trees with her rag doll, Sophie, in her arms. She nodded to her favorites here and there, touching their trunks gently as she bade each one "Good-afternoon!" When she reached the King she stopped in astonishment. Stretched at full length on the pine needles lay a man—a tall man with a gray hat covering his face. Esther decided that he was asleep, and that she and Sophie must play somewhere else that day, but she could not go without a word of greeting to the King.

"Good-afternoon, King!" she called, very softly.

"Me?" said the man, suddenly sitting upright and smiling at Esther with a pair of friendly dark eyes.

Esther shook her head, much embarrassed. She remembered Peter's laughter, and she did not want to explain; but the stranger's eyes followed her involuntary glance at the great pine tree, and he seemed to understand.

"He's magnificent," he said, seriously. "Is he the King? Tell me about it!"

And then Esther did a strange thing. She sat down beside this tall man, whom she had never seen before, and she told him all about the King and the other trees, his subjects. She even told about the red squirrel.

Her new friend, nodding, with his eyes fixed on the King's swaying branches, said, gravely. "I see! A courier, of course!"

When Esther had finished, they sat for a little while in silence, and then the man said suddenly, "And now—sha'n't we play?"

He spoke so exactly like another child that Esther glanced at him to reassure herself. There were the long legs and the black mustache; he was a grown man—quite an old man, Esther decided. How could he play with a little girl?

"I play *dolls*," she explained, with gentle emphasis on the last word.

He laughed softly. "I play anything!" he said. "Give me a trial and you shall see! Some people are born players, little Esther. I am one, and you are another; that's why we both understand about the King, and why we are going to have such a beautiful time this afternoon. I'm so glad you came! Now, you be the Countess Esther, and I'll be Duke Ferdinand, and we'll give a ball in the King's palace!"

Never, surely, was such a ball as that! They chose a mossy circle for the ballroom, and the Duke showed Esther how to weave chaplets of flowers for herself and the Lady Sophie. Then he set to work to make the guests. He chose smooth dead branches, and breaking from each one the lower twigs so as to leave three or four legs on which it might stand firmly, he carved at the top of each little figure a grotesque head. The sharp knife and the long white fingers worked so swiftly that Esther thought they must be bewitched.

When the guests were ready, the Duke transformed himself into an orchestra, and whistled the merriest tunes, while Esther led out the queer little figures, two at a time, to dance. Such a playmate as he was! The shadows were growing longer and longer, and suddenly Esther realized that it was quite time for her to go home. Reluctantly she told the Duke.

"So it is!" he said. "Well, I'll walk with you to the edge of the wood."

"Good-night, King," Esther called, as she always did, to the great pine, and the Duke lifted his hat.

"He introduced us, didn't he?" he said, cheerily; and then he stooped, to look into Esther's face. "What's the matter, Countess?" he asked.

"I'm thinking about to-morrow," she said. "You won't be here!"

"Ah, you'll come again to-morrow, won't you? You won't see me, but you won't be lonely. I promise you that. You'll be sure to come to-morrow?"

Esther promised that she would.

At the edge of the wood he kissed her forehead, and said, "Good-by, little Esther."

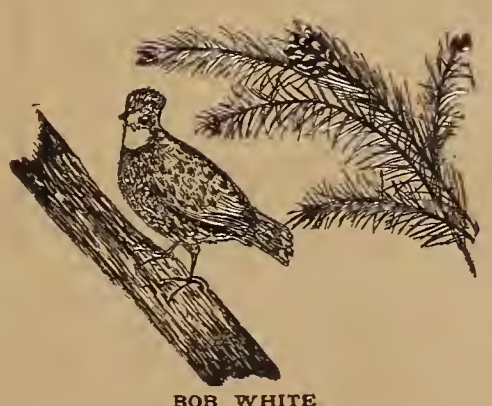
If it had not been for her promise Esther would not have gone to the wood lot the next day. She had never been lonely before, but now she had something to miss.

When at last she stood close to the King, she gave a sharp little cry. The tall gray figure was not there, but something else—something wonderful! There was a little table spread with a white cloth and set with the daintiest pink china tea set; and in two little white chairs were seated two dolls more beautiful than any Esther had ever dreamed of. Esther knew in a moment that they were hers; she knew whose hands had put the wreath of partridge blossoms on the yellow curls of the fair doll, and who had crowned the dark beauty with buttercups. She dropped to her knees, and gazed and gazed in silent rapture, and then, taking a doll tenderly in each arm, she flew homeward to share her joy with Grandma Safford. The Duke had been right. Esther might miss him, but she could never be lonely as she played under the great King's shadow with the friends his thought for her had provided.

◈

Two of Our Feathered Friends

"Bob White! Bob White!" clear as a flute sounds across the meadow. Thus the quail announces to his wife, "I am here, I have found a treasure. Come, and bring the babes." She hastens to him,



BOB WHITE

the chicks slipping noiselessly over the brown pine needles.

"Oh, what a feast!" they murmur, nibbling the spicy checkerberries and the toothsome partridgeberries.

Suddenly a sharp report breaks the silence. The sportsman's **gun!** As if by magic every quail disappears instantly, quite as mysteriously as if the ground had opened and swallowed them. Silence absolute and profound reigns. After a time a clear call sounds. 'Tis the quail's assembly call. The danger is past and Bob is once more calling his loved ones to gather at his side.

"A narrow escape," he says, as they cluster about him. "You did just right, my children. Whenever you hear that most dreaded of all sounds, drop just where you are, crouch close to the ground, remain absolutely motionless, don't let so much as a feather stir, and the chances are ten to one that the hunter will pass you by without even suspecting your presence. He who clothed us, remembering our helplessness, made our feathers to look exactly like the forest floor, with its brown and grayish carpet, flecked here and there with bits of sunshine. If we remember this, our feather jackets will be as useful to us as were the coats of mail to the knights of old."

Hear the children shouting, "The swallows have come! The swallows have come! 'Tis summer, oh, 'tis summer!" Truly you may know when you see us that vacation days are not far off, for when we come we bring the summer with us from our far Southern home.

You have often heard people say, "The swallows fly high. It will be a fair day,"



SWALLOWS

or, "The swallows fly low. It is going to rain." Did you ever ask yourself why this is so? No, I thought not. When the sky is clear and the sun bright the tiny flies, midges and gnats, upon which we breakfast, lunch and dine, like to circle about in their mystic dances high up in air, but when it is gray or lowery they remain near the earth; so you see we must follow our food supply, be it high or low.

Why do we build our nests in chimneys, you ask, where our children are liable to fall into the fires below and be burned to death at any moment? Ah, my friend, if you ever tried raising a family in a chimney top I am sure you would never ask that question, for 'tis an ideal spot. There our nestlings are safe from the hawk's cruel claws. They are quite protected from rain and wind and the sun's pitiless rays, and 'tis only rarely that the people whose chimneys we occupy build fires during our stay. Even if they occasionally should do so, a whiff of smoke or a little extra warmth would not injure our little ones.

◈

Cousin Sally's Letter

Dear Boys and Girls:—What do you think of a puzzle contest with prizes? Here is one at the bottom of the page that will make you all think hard, I am sure. But the prizes are worth a little brain exercise. What boy does not know the fun of sailing a boat on imaginary voyages about the world? And did you girls ever stop to think of the possibilities there are in a box of water-color paints? You can color your own drawings with them, or pictures in books; or you can do as a little sister of mine does, color the picture postal cards which you send to your friends. Now that vacation time is here, and you will have time to work out more puzzles, I am going to use one little corner of our page on the tenth of each month for prize contests of different kinds, which are to be open to all the boy and girl readers of Farm and Fireside who are under sixteen years of age. The contest printed below is the first one, and I am anxious to know what you think of it.

Affectionately,
Cousin Sally.

◈

Prize Offers

Hidden in the following descriptions are the names of cities. Can you guess them?

1. A pious person; a covering for the dead. 2. Fear; a consonant; a metal. 3. Public conveyances; a preposition; a town. 4. Two youths. 5. To pull a boat through water; a point; the extreme end of America. 6. Insane; yourself; a heavenly body. 7. A name sometimes used for God. 8. A month; a vowel. 9. A pigeon; the middle of April. 10. A boy's name; a weight. 11. The staff of a musical director; a cosmetic.

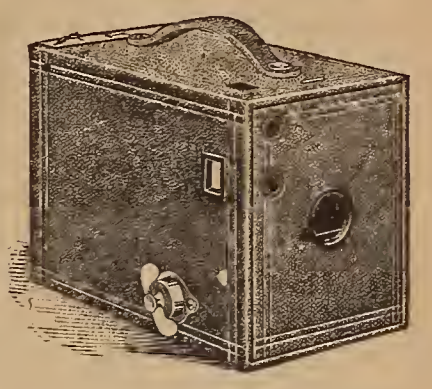
The answer to number 1 is Saint Paul.

To the boy sending in the *first* correct list of these hidden cities we will send a sailboat. To the girl sending in the *first* correct list we will send a box of water-color paints.

Charming supplementary prizes of pictures will also be sent to every boy or girl who sends in a correct list of seven or more of these cities.

All answers must be sent to Cousin Sally, care of Farm and Fireside, Springfield, Ohio, and must be sent in not later than June 20th.

Anybody Can Kodak.



The No. 2 BROWNIE

Pictures, 2¼x3¼. Price, $2.00

Built on the Kodak plan by Kodak workmen, this simple little camera offers an inexpensive and easy way of picture taking. Loads in daylight with Kodak film cartridges for six exposures, has the Eastman Rotary Shutter for snap-shots or timed pictures, has a fine meniscus lens and two finders. Carefully made in every detail and each one rigidly inspected.



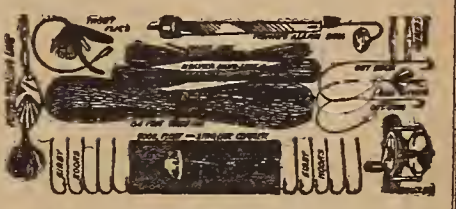
Brownie Developing Box

This little box has made the developing of negatives as simple as "pressing the button". Any amateur can now develop his own film with the certainty of getting the best possible results from every exposure. *No Dark Room* for any part of the work. Every step is easy with a Brownie Developing Box. PRICE, $1.00.

Ask your dealer to show you, or write us for the 1908 Kodak Catalogue.

EASTMAN KODAK CO.
382 State Street,
ROCHESTER, N. Y.

Boys! You Can Have This Big Fishing Outfit



This is the most complete fishing outfit ever given away—everything you want to fish with.

A big throw line 84 feet long,
Three kinds of lines,
Hook float and sink line complete,
Fluted trolling line,
Brass reel,
Fly hooks,
Sinkers,
Alarm bell.

—27 DIFFERENT PIECES—Everything just as represented. The reel is for fastening on a pole, to be used in catching all kinds of fish. The flies have long gut leaders to prevent the fish biting off the hook. This is one of the best outfits ever offered. An outfit like this at stores would cost lots of money.

Every boy who writes us this week can get this outfit. Just send your name and address and get complete outfit. Address

Successful Farming, Box 655, Des Moines, Ia.



WE SHIP ON APPROVAL *without a cent deposit*, prepay the freight and allow **10 DAYS FREE TRIAL.**

IT ONLY COSTS one cent to learn our *unheard of prices* and *marvelous offers* on highest grade 1908 model bicycles.

FACTORY PRICES *Do not buy* a bicycle or a pair of tires from *anyone* at *any price* until you write for our large **Art Catalog** and learn our *wonderful proposition* on first sample bicycle going to your town.

RIDER AGENTS everywhere are making big money exhibiting and selling our bicycles.

We Sell cheaper than any other factory.

Tires, Coaster-Brakes, single wheels, parts, repairs and sundries at *half usual prices.*

Do Not Wait; write *today* for our *special offer.*

MEAD CYCLE CO., Dept. W-83, CHICAGO

Post Cards Given

Cut out this ad and we will send you a set of 3 most beautiful post cards you ever saw. Send 2-ct. stamps for postage. Full set of 10 for 10 cents; 3 full sets 25 cents. Everyone answering this ad immediately will also receive our splendid farm magazine 3 months on trial free. We make this great offer to introduce our big farm paper which already has more than a half million readers. Address at once

Valley Farmer Post Card Dept., 33, Topeka, Kansas.



MAKE YOUR BICYCLE INTO A MOTORCYCLE

at small cost by attaching the successful Erie outfit. This includes all parts to make a powerful up-to-date machine that climbs steep hills. Sample sold at cost to introduce it. Send 4 cents in stamps for new catalog No. 8.

Motorcycle Equipment Co., Hammondsport, N. Y.

It is to your advantage to mention Farm and Fireside in writing to advertisers. Farm and Fireside folks get the very best attention.

The Prince of Pets

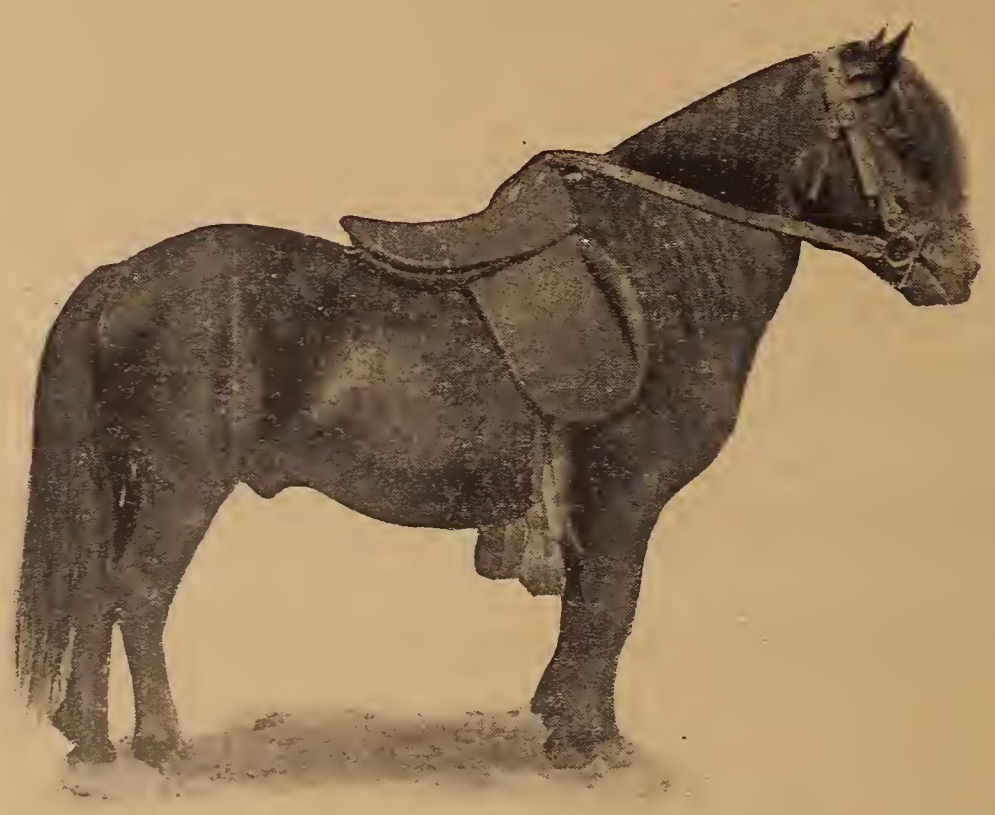
To be Given Away to Some Boy or Girl

How would you like to win "Duke," the beautiful Shetland pony pictured below? Wouldn't you be the happiest boy or girl in all this land? Well, you can get "Duke" if you will just hustle a little and do a favor for FARM AND FIRESIDE. We are going to send him with his cart and harness, saddle and bridle, right to the home of the boy or girl that wins him, in just a few weeks, absolutely free of all charge, so you can soon have him for your very own if you hustle! Why not?



This is Viva McNutt, Vandergrift, Pa., a former pony winner. In a recent letter she said: "It was no trouble at all to get subscribers. Don't give up! I was bound to have 'Teddy,' and I got him. You can win if you never give up!"

"Duke" is indeed "The Prince of Pets." You couldn't find a handsomer pony if you tried. "Duke" is the best of all. Did you ever see a finer pony in your life? Think what fun you can have riding and driving him this summer! Think how proud you will be! And it is only a few weeks away, too! But "Duke" isn't the only pony we shall give away. "Bonny," the second prize pony, is almost as good. We guarantee both ponies sound as dollars, gentle as kittens, young and thoroughly broken.



This is "Duke" with his saddle and bridle just waiting for you to jump on his back and ride away!

Write to the Pony Man Today

This is going to be the easiest contest to win that FARM AND FIRESIDE has ever conducted. Not only will two beautiful ponies be given away, but we also offer two handsome Harrington pianos, 50 superb Grand Prizes, and many other valuable prizes. Every person who takes part in this contest will be suitably and liberally rewarded. Absolutely every contestant will get a valuable prize—we guarantee it. You cannot lose in this contest, and you can win the finest prizes ever offered, in just a few weeks, if you hustle.



This is Howard Laidlaw, Walton, N. Y., first prize winner in our last pony contest. He writes: "'Prince' is a beauty. I tried to win a pony last year, and lost because I didn't try hard enough. This year I hustled, and won. Any one can win if he hustles."

Don't delay. Don't waste a minute! Just write on a piece of paper or a postal card, and say, "Dear Pony Man: Please tell me how I can win 'Duke' and the other fine prizes." Then sign your name and address in full. Do it to-day—**now!** As soon as I hear from you, I will tell you just how you can get "Duke," and will send you some pictures and lots of other things. They are all free. But remember, if you want your pony in a few weeks, you must hurry. Write me now.

THE PONY MAN

Farm and Fireside Dept. 26 Springfield, Ohio

P. S.—If you want to make sure of a prize right away, do not wait to hear from me, but get ten of your relatives or friends to take FARM AND FIRESIDE. Then you will be a prize winner sure.

Mrs. Pemberton's Matrimonial Venture

[CONTINUED FROM PAGE 11]

The wedding day dawned at last, bright and clear, with all the preparations complete in every detail. Not a Mossville housekeeper could have found a flaw in anything. But Jane Pemberton was a changed woman, pale and thin; she was only the shadow of her former self.

Two hours before the wedding Helen and her mother were alone in the house together. The mother had wished it so. But she was not talking in these last minutes, and Helen watched her anxiously.

"Should I—ought I—had I better wear a veil, Helen?" she asked finally; and then, in answer to Helen's look of surprise, "Oh, of course not. It would be foolish. I don't know what I was talking about," and she dropped into a chair and closed her eyes.

Helen was on her knees beside her mother in a moment.

"Mother dear, you break my heart," she cried, putting her arms around her and holding her close. "This wedding is too hard for you, but it is not too late to stop it. You and I have lived for each other so long, and we can go on as we always have. I'll send for Donald now."

"No, no," said her mother, grasping her hands. "I really wish it. I know it is for the best."

"Then if you really wish it to go on, there is something that I must tell you before the wedding." Helen was hiding her face on her mother's shoulder, and she began in a voice so low that her mother could hardly hear her.

"I don't know really how it happened, but Donald and I had been engaged six months before you knew anything about it."

"You and Donald engaged?" Mrs. Pemberton held her daughter at arm's length and looked at her with a dazed expression on her face. Then she burst into a peal of hysterical laughter which ended in a wild fit of sobbing.

"Don't, don't, mother dear," pleaded Helen. "We really did not mean to, but someway it just happened. Then suddenly you seemed to understand, and it was hard for me to explain, but I couldn't be married without it."

A mist seemed to be rising from Mrs. Pemberton's brain. It was as if the weight of some great catastrophe had been lifted from her, as if she was awakening from a long sleep which had left her dazed and uncertain.

"And you and Donald have cared for each other all this time," she murmured. "A happy marriage for you is the one thing I could wish for more than anything else in the world.

"And you really and truly love Donald?" she asked, holding her daughter so that she could look deep into her eyes. "You know I have always wanted to annex Donald's property," and there came the shrewd twinkle in her own eyes which made her seem like her old self once more. For the first time Helen felt that many things she had been unable to understand were becoming plain.

"Oh," she cried, drawing a long breath, "you thought I did not really love him!"

"My dear," said her mother, "I had not an idea of it. How could I when you were so quiet? I thought this was to be a great sacrifice." This time her laugh was hearty and natural.

"Now," she said, getting up and speaking with all her old energy, "this has been more of a strain for me than you think. It is an hour and a half until the ceremony. I am going to rest, but I will be ready to help you with the last touches."

Going into her room, Jane Pemberton locked the door, drew a long breath of utter happiness, knelt down and said a short prayer, then threw herself on the bed, and for an hour she slept the sleep of an untroubled child. When she wakened, the roses had come back to her cheeks, her heart was dancing with joy, and no one was gayer at the wedding than she.

"She is a wonderful woman," said the neighbors admiringly. "Any one can see that she has been breaking her heart at losing Helen, and yet to look at her you would think this was the happiest moment of her life."

No one, to have seen her, would have suspected otherwise as she tucked the bride into the carriage which was to take the pair to the railway station, kissed Donald Grey for the second time since he had asked to become a member of the family, and called him her son as she gave him an affectionate pat on the shoulder with an expression of warm liking in her eyes.

"It is all right," said Helen happily, as she drew closer to her husband. "Mother has been worrying all this time for fear we did not really love each other. She thought I was marrying you to annex your property," and she laughed gaily.

"Annexation is a great thing," said Donald with an equally happy laugh. And what more he said may not be told, for the carriage door was closed upon them.

CITY AND COUNTRY

A RELATIVE of mine owns a twenty-acre farm in the rolling sections of western New York. He raises fruits and keeps bees. Some friend, referring to the thousands in the cities who are out of work, and to the "money stringency," wrote him: "What is the matter with our country?" And his answer is: "Nothing with the country: enough with the people. The city draws them as the light draws the moths. What advantage is there for me in the city? I think too much of my independence and security, and would not exchange my position for anything the city has to offer. Nor have I seen the first sign of that much-talked-of money stringency. I don't think times have ever been better with me. I have enough to eat, and always a little money in my pocket—maybe not very much, but always enough to cover all my expenses. Who is more independent, more secure in his position, than the farmer? And if he would only appreciate it, and be content, he would also be the happiest man in the land!"

All true, yet we should not forget that we do not really care to have an exodus from the city to the country. The present conditions should bring some of those who are out of employment in the cities to the farms so as to relieve the scarcity of farm labor, but the move does not seem to be very general, and many laboring men would rather stay around in the cities waiting for a job than go out into the country to work on a farm for fair, if not high, wages.

It is questionable, however, whether this class of labor would be of much benefit to the farmer. Surely we do not want to induce city laborers who are novices in farming operations, to come out into the country to take up farming as a life occupation, when in all probability they would only make a failure of it!

T. GREINER.

THE AGRICULTURAL PRESS

It should be the purpose and province of every agricultural journal to teach something of the elementary principles upon which this greatest and most essential of all industries rests.

The knowledge of these elementary principles gives interest to the farmer in his daily work in his garden and in his fields; as he learns more and more of Nature's methods of assisting him in his labor, that interest will become more absorbing, until it takes possession of his mind and imparts new inspiration to the work of the farm in all its departments.

For the agricultural editor to become a teacher of agriculture through his paper he need not feel that he must necessarily be an authority on all questions arising in this broad field. To teach some agriculture one need not know all agriculture. If the editor knows even a few valuable facts, methods or principles that will make life on the farm easier, that will make the farm more beautiful, more productive and more profitable, he will be doing a good work by imparting these methods and these principles to the readers of his paper.

There may be a few who are above the standard of intelligence to whom these lessons would come as an "oft-told tale," but the publication of such information will serve the purpose of "stirring up" their pure minds by way of remembrance of things which they had perhaps forgotten by failing to realize their importance, and thus neglecting their practise.

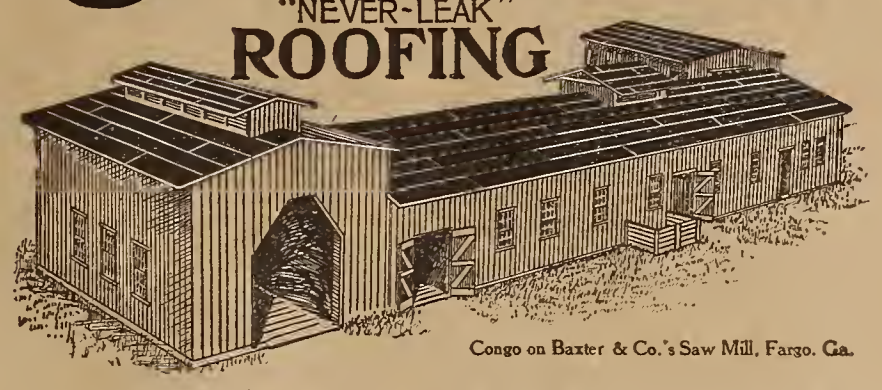
But to the great masses of American farmers who are farmers by heredity, inheriting all the whims and caprices and mistakes of an honest, hard-working, well-meaning ancestry, these lessons in fundamental principles are of incalculable value, because they teach a knowledge of the soil, the material with which the farmer has to do and upon which he must depend for all the products and all the recompense he is to receive for his toil.

Man may not have been made particularly for the soil, but the soil was made for man; without it he could not subsist, but with it and the intelligence to understand the processes of Nature in its formation, and to cultivate, develop and utilize its possibilities, he becomes the independent monarch of all created life.

It is this needed intelligence and understanding of the soil, of the best methods of cultivation, of the proper selection of seed and fertilizers, that the agricultural editor desires to place before his readers. In the dissemination of such knowledge among the great masses of farmers in this country the agricultural press is the most potent and efficient agency. The farm paper penetrates the obscurity of the country home; it carries welcome messages of cheer and good will into the solitude of country life. To the parents, the boys and girls it speaks as a friend to each and points the surest and the safest way to successful, prosperous careers.

S. J. LOGAN.

CONGO
"NEVER-LEAK"
ROOFING



Congo on Baxter & Co.'s Saw Mill, Fargo, Ga.

CONGO ROOFING is made for all weathers. An unusually severe storm won't hurt it. An extraordinary hot spell won't hurt it. An extra long cold snap won't hurt it. It will stand *any kind of exposure*. It is the "*Never-leak-roof*"—the kind that stays tight after it gets old as well as when it is new.

CONGO ROOFING is a *real protection* to any building. Some roofings are nothing but paper that will take a layer of paint or coating. In that case the paint is your real roof, and when it wears off, the roof is ruined. It is an actual fact that many so-called roofings will dissolve under the action of water if not protected by the paint or coating.

Congo Roofing is a different proposition. The weather finds no way in which to attack it.

RAIN can't damage it because there is nothing in it that is affected by water in any way. If Congo Roofing were put at the bottom of a pond, the water would never disintegrate it.

AIR can't damage it because there is nothing in it that is volatile—nothing that will evaporate. If Congo Roofing were hung out like a flag for years, so that air could get at both sides of it, it would stay just as pliable and elastic as when new.

CLIMATE can't change it because there is nothing in it that is affected by either heat or cold. The heat on roofs in summer is often terrific, and in winter the snow thaws and freezes there for weeks, but Congo has never shown any effects of such exposure.

IT can't *rot* because there is nothing in it that can decompose. It is because we know the nature of the materials we use that we venture to say that Congo Roofing is *practically indestructible*.

PEOPLE who buy Congo Roofing for a building once, don't buy any more in after years—for that building—because it is *there to stay*, although the roof costs but little. They do buy more for their *other* roofs. Everyone who tries Congo is soon a convert, and he becomes more enthusiastic the longer he waits for the roof to wear out.

EVERY foot of Congo Roofing is carefully inspected as it comes off the machine. No imperfect rolls are allowed to leave the factory. Every pound of the material that enters into the composition is *carefully tested* before being used, and strictly held to standard. Should it fail in the slightest way, it is immediately discarded.

Congo Roofing is handsome in appearance, being of a uniform slate-gray color.

CONGO ROOFING is put up in rolls 36 inches wide. Each roll contains 108 square feet, sufficient to cover 100 square feet and allow for a two-inch lap.

The rolls are finished with an attractive wrapper and label, and are capped with a special metal cap to protect the ends of the roofing. A steel rod runs through the center to hold the caps and cement securely in place.

SUFFICIENT Congo cement, nails and tin caps for applying are neatly packed in the center of each roll, so that you pay nothing for extras.

CONGO ROOFING is easy to apply. Skilled labor is not necessary. You don't have to hire an expert to help. If you can drive a nail you can do all the work that is necessary.

FREE SAMPLE

Don't buy your roofing until you examine a sample of Congo; and remember, Congo samples are not special pieces prepared for the purpose, but are cut from our regular stock.

We mention this because Congo is so attractive looking, so tough and pliable, that people sometimes think the samples must be specially prepared.

UNITED ROOFING & M'F'G CO.
Successors to Buchanan Foster Co.
553 West End Trust Bldg., Philadelphia, Pa.
Chicago San Francisco

The Mysterious Mr. Roosevelt

Hundreds of thousands of people have been trying to find him for the past four months. Have you succeeded? In the picture below we present for the first time the solution of this wonderful and famous puzzle. The only pictures that are alike, of all these five hundred, are the two surrounded by the white rings.



All rights reserved by FARM AND FIRESIDE, Springfield, Ohio Copyright by Underwood & Underwood, New York

A New Limited Offer

If you will send us only ten cents for one new subscription to FARM AND FIRESIDE, to run from now until December, 1908—eleven numbers—we will send you a handsome mezzotone reproduction of the above wonderful picture, all ready to frame the minute you get it. The reproduction you will receive is 13⅜ x 20½ inches—twelve times as large as the above print. The subscription may be your own or some one else's. There is no advertising of any kind on this picture, and it is reproduced on the finest quality coated stock.

We have only a limited supply of these wonderful pictures, and cannot guarantee to furnish them after July 15th. This is a wonderful opportunity to get one for your own, and at the same time to induce some friend or neighbor to give you a trial subscription to FARM AND FIRESIDE. Remember, the offer is limited. Send all orders to

FARM AND FIRESIDE, SPRINGFIELD, OHIO

JINGLES FOR FARMERS

Farmer Save Penny loves to hear
The lay of the laying hen;
'Tis sweeter to him than any song
That comes from the lips of men.

Farmer Plod may be rather slow,
But he'll surely get there,
For day by day he works away,
And gives his crops good care.

M. L. PIPER.

POTATO GROWING AS A SPECIALTY

A Pennsylvania subscriber says he is tired of city life and would like to go into Ohio, buy about thirty acres and make potato growing a specialty. He asks several questions about his proposed scheme.

Concerning the best part of Ohio for potato growing he should consult the Ohio Experiment Station. Whether he can make potato growing a success is a question he will have to decide for himself. If I were taking such a step as he is contemplating I would aim to mix things a little more. I would not limit myself to potatoes, but would grow some corn, clover, and possibly other crops on a limited scale. I would keep a few good hogs and some high-class fowls. It rarely pays to depend wholly upon one crop for a living.

As to the quantity or number of bushels that can be grown upon a given area it would be difficult to give any definite information. The yield would depend on the condition of the soil, cultivation, season, and so on.

There is a good deal of hard work connected with potato growing, and a man like this inquirer should not attempt too much at the start. I would suggest two or three acres. If he does well with two or three acres he can safely extend his operations. FRED GRUNDY.

IRONCLAD PAINT ON THE FARM

For many years we have each season used a number of gallons of this paint in connection with our various machinery and equipments about the farm, and are aware that it is one of the best investments which we make at our local hardware store.

One gallon of boiled linseed oil, at a cost of fifty-five cents, to which is added seven pounds of ironclad powder, and well stirred up, secures us a gallon of the very best and cheapest paint that can be used in the preservation of our farm tools.

Not only the barns and sheds can be kept in perfect preservation with this solution, but wagons, plows, harrows, hog bunks, chicken coops in the poultry yard, hay racks, hog racks and many other farm devices are greatly enhanced in appearance and nicely preserved by its use.

Many times we desire a paint that is lighter in shade than the regular ironclad; then we purchase one third ironclad and two thirds Venetian red, and stir the two together. We use this preparation chiefly on our wagons, iron and tin roofs, etc.

If more of this paint were used upon our farms in the way of preserving our farm tools, a great deal less money would be expended, especially upon those that must be exposed to the weather much of the time.

To make it more effective and lasting, mix it up several weeks before using, and leave it to stand and incorporate itself thoroughly with the oil. We keep several gallons of it mixed and standing in the tool shed all the time; then when we have the occasion to use it we always have it on hand. GEO. W. BROWN.

STRIKING FOR BETTER THINGS

The other day a letter came to me from a young man, telling me about his farm work. He had recently gone on the place, and things which needed doing seemed to loom up before him pretty big. But one thing in the letter made me feel first rate. It was this:

"I do long to build some fence that will be right."

That has the true ring about it. Any man, young or old, who is not satisfied with his present attainments and wants to get up to better things will find everything working for him. These are the men who make this old world of ours a better place to live in.

A few years ago a man and his wife moved into a neighborhood where farming was at a rather low ebb. The land was good. It was not very far from good markets. Opportunities were promising. The farm had been rather neglected, so that the barn needed rigging up and the fences renovating. He went at it with a will, and it was not long before things began to take on a new look. Buildings better, fences better, crops better. You would scarcely have known the old place. It was all fine.

But the most encouraging thing about it all was the inspiration this man's course put into the hearts of other farmers of the locality. It did not take long for them to catch the longing to fix up their own farms. In every direction one might hear the sound of hammers as old houses were made over, with a porch here and a comfortable addition there; and out in the fields the same upward drift was apparent.

There are hundreds of nice farm localities in this country that have been simply made over through the example of one or two good, enterprising farmers. The thing is to get the ideal before one. Then the rest is easy. Drifting along is easy. Ruts are made by wagon wheels that naturally run into the same track. It takes work to get up on the level, but how much better the world goes after that!

Folks used to live in a pretty poor sort of way. Most anything would do for a house. A hole in the ground or a cave was good enough. Things that we of to-day would not look at were all right to eat. Just to get enough to fill up on and then to lie down and sleep was all men cared for.

Then somebody had a dream of a house that should be built above ground. There should be windows in it, though these came very slowly. Brighter and brighter the vision became, until now the man who is satisfied to live in a cave is almost unknown.

This is the way all our good things have come. Some one has longed to build a better fence or grow a better crop. Blessings on the man who has that dream! Or some one thought out a machine that would beat anything ever known before. Toward these ideals these men have worked; and you and I are enjoying the result. But there are still improvements to be made. We may all of us reach up toward better things than we have done yet. Better buildings, better fences, better crops, better homes and better manhood. These are things well worth striking for.

And when our young men have in their hearts the hope of a day when they shall do better things than they or their fathers have done, there is not much danger that we are on the downward track. E. L. VINCENT.

CATCH CROPS

There is a general clamoring among farmers for more land. My "broad acres" possess an attraction that is not associated with my "little farm." Very few of us are so fortunately situated that we can add more acres, but nearly all of us can increase the producing capacity of our land by improved and advanced methods of farming, thereby enriching the soil so that a third or a half more, and in some cases double the amount of crops, can be produced from the same farm.

Among the many things that can help us are "catch crops." There is no definite time for sowing them, nor are they limited to any particular kind of crop. Whenever there is a piece of bare ground available, that is in good heart, clean, and has a fair amount of humus incorporated in it, any crop may be sown that is suited to the season or for a special purpose.

It frequently happens that through lack of germination of the grass and clover seed, the killing of the plants by the hot, dry weather of summer or the heaving of the clover in the early spring the pasture is deficient the following season. The following mixture will form a good substitute and will be ready for use about six weeks after the seed is sown: Oats, one and one half bushels; Early Amber sugar cane, thirty pounds, and common red clover, seven pounds, thus making a total of eighty-eight pounds of seed to the acre.

Rape is preeminently a catch crop. It may be sown with oats or barley about two weeks later than the grain is sown, at the rate of three pounds to the acre, and brushed in with a weeder or with the last cultivation of the corn. When the crop is removed the young plants grow right along and furnish grand pasture in the fall for hogs, sheep and young cattle.

June is the favorite month for sowing rape, although it will give good results when sown any time during July. A good crop can be grown on clover sod plowed immediately after harvesting a hay crop. When sown broadcast, four or five pounds to the acre will be required. It is an advantage, however, to sow in drills about thirty inches apart, at the rate of two pounds to the acre, so as to admit of the use of the horse hoe between the rows, to conserve moisture and hasten growth.

Wheat and oat stubble, gang-plowed shallow and sown early with oats mixed with a few peas, barley or rye, also give an abundance of fall pasture for cows.

An excellent crop to sow in the fall for late picking or early spring pasture is rye. It can be sown on ground that is intended for roots or corn. It makes a splendid cover crop.

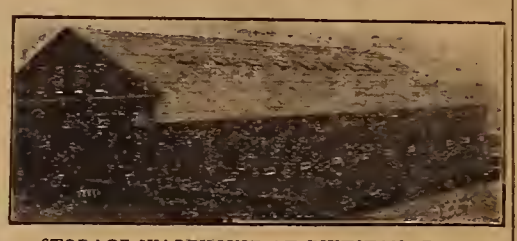
J. HUGH MCKENNEY.



PAINTING a roof is work, buying the paint is expense. Both are needless if your roof is Amatite. No painting—no repairing. That's the story of Amatite.

It means a tight roof—an economical roof—a durable roof.

Do not confuse Amatite roofing with the



STORAGE WAREHOUSE AT PITTSTON, PA., COVERED WITH AMATITE

ordinary smooth surfaced kind. It is in a class by itself.

Many so-called "ready roofings" are not "ready" until they get a special coat of paint, which you pay for extra,—if not at once, surely a year or two after they are laid.

Amatite needs no attention of this kind.

When you have finished nailing it on your roof it is a complete roof which needs no painting.

It has a top surface of *real mineral matter*—Amatite—which not only makes painting unnecessary, but resists storms and snow better than paint or coating of any kind.



BARN AT PARK RIDGE, N. J., COVERED WITH AMATITE

Beneath this mineral surface are double layers of Felt and Coal Tar Pitch—the same waterproofing that is used by the United States Government at West Point, at some of the Navy Yards, at the New York Custom House, and many other such buildings.

It is the *greatest waterproofing material known*, and you are sure of getting it only when you buy Amatite.

Amatite is also an excellent fire retardant.

Another source of satisfaction in buying Amatite is that it can be put on by anyone. No special tools or skilled labor required.

Amatite is easier to lay than ever this year. The liquid cement for the laps does not require heating before use.

A three-inch smooth margin is left at the edge of the sheet so that the laps will be tight fitting and easily cemented. The large headed nails which we furnish save fussing with caps, which rust easily.

You save both money and labor when you use Amatite.

When the roofing question comes up, ask yourself—Are the old methods good enough for me, or do I want something new and better?



AMATITE ON A COTTAGE ROOF

If you do this you will surely buy Amatite. No progressive man would do otherwise.

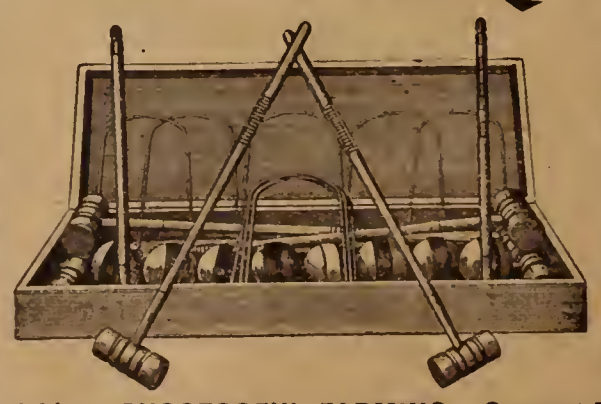
FREE SAMPLE

We should like to send you a Free Sample of Amatite.

At the same time we will send you a handsome little booklet which shows many roofs where Amatite has been used with great success. Some of these may be right in your own locality. Like the sample, this is sent without charge. Write to-day to our nearest office and you will learn something to your advantage.

BARRETT MANUFACTURING CO., New York, Chicago, Philadelphia, Boston, St. Louis, Cleveland, Allegheny, Cincinnati, Kansas City, Minneapolis, New Orleans, London, Eng.

FINE CROQUET SET



An Elegant Croquet Set Given to Every Boy, Girl, Man or Lady, Who Writes Us at Once.

This beautiful croquet set is made of good material and will last a lifetime.

Each set contains 8 balls, very nicely finished, selected handles, large stakes well finished, large galvanized iron wickets, mallets painted one band, put up in a good pine box.

Croquet is certainly a splendid game; it is like baseball, you never get tired of it. Every person can secure this full size croquet set. Just send your name and address while they last.

Address **SUCCESSFUL FARMING, Croquet Dept. 6, Des Moines, Iowa**

It is to your advantage to mention Farm and Fireside in writing to advertisers. Farm and Fireside folks get the very best attention.

LIBRARY
RECEIVED
U. S. Department of Agriculture

AN ILLUSTRATED FARM AND FAMILY JOURNAL

FARM AND FIRESIDE

EASTERN EDITION

Vol. XXXI. No. 18 SPRINGFIELD, OHIO, JUNE 25, 1908 TERMS—{1 Year, 24 Numbers, 25 Cents. 5 Years, 120 Numbers, $1.00.

The Old Home of Dr. John A. Warder

The Father of American Forestry and One of the Great Promoters of American Horticulture

RECENTLY I had the good fortune to spend a day at the old home of Dr. John A. Warder at North Bend, Ohio.

To the younger readers of FARM AND FIRESIDE the name of Doctor Warder is not so well known as it was a generation ago. Then it was a household word. He was an enthusiast in horticulture and in forestry, and to the day of his death, on July 14, 1883, his great purpose was to give happiness to others, by teaching them to appreciate the beauties and bounties of Nature.

His early life was spent in a suburban home near Philadelphia, Pennsylvania. Here he had the good fortune to meet such men as Audubon, Michaux and Nuttall.

In 1830, when Doctor Warder was eighteen years of age, his parents moved into the newly settled and mainly wooded region near Springfield, Ohio, where they established a home called "Woodside."

Had the state agricultural colleges been inaugurated at this time, he would surely have taken a course therein; but in lieu of this, a medical college in Philadelphia afforded him the best opportunity to gratify his natural tastes, and he graduated therefrom in 1836.

Heeding the Call to the Country

Doctor Warder decided to locate in Cincinnati to practise his profession. Here he became widely known, not alone on account of his professional services, but by his intelligent and helpful interest in all measures tending to the diffusion of knowledge or the promotion of industry, art and science. During his successful career as a physician he longed for the broader field of study and investigation not found in books, the mystery of the life, the beauty and the bounty of Nature as seen in flower, fruit and tree. The fields, the orchards and the forests called him with an alluring insistence.

He had been brought up in the country, had passed his childhood and youth amid the rural scenes of a home on the farm, and he yearned for a life closer to the heart of Nature than the one he was compelled to live in the city. With this love of country life strong upon him, and appreciating the restful beauty of the hills that overlooked the Ohio River, he bought two hundred and thirty acres near North Bend, being a part of the farm once owned by President William Henry Harrison.



CATALPAS ALONG ROADWAY AT DOCTOR WARDER'S HOME, NORTH BEND, OHIO

He gave up the practise of medicine and moved to his new home in 1855, where he spent the remainder of his days, which were lengthened into twenty-eight years of busy, useful, happy life.

To the two hundred and thirty acres purchased of the President Harrison estate were added at different times twenty-five acres of primitive or hill forest and seventy acres consisting of wood pasture, meadow and forest.

All the riper tastes of Doctor Warder inclined to the life he could now lead. The quiet of the country, the glorious views up and down the Ohio River, the beauty of Nature as seen in the rugged, mainly wooded hills, with trees of white and red oak, hard and soft maple, beech, honey locust, black walnut, elm, ash, black cherry, sycamore, hickory and other less abundant species, appealed to him. Most of this woodland had been pastured, and the first care of Doctor Warder, on getting possession of his farm, was to shut stock out of the greater part of the woods, where it had been free to roam and ravage for two preceding generations. He realized at that early day that pasturing woods is one of the most pitiable weaknesses of our agriculture. Horses, cattle and sheep browse the tender twigs and more delicate shoots of the most valuable young trees, while they leave the worthless untouched. It was a pleasure to see the fine young growth and natural regeneration of the woods where cattle and other stock had been rigorously excluded. But Doctor Warder was not content with this. He began the work of planting trees systematically and on a larger scale than had been done elsewhere in Ohio over fifty years ago. In fact, most of his time from 1855 until his death in 1883 was devoted to testing varieties of fruit and forest trees. His farm may justly be called the first fruit experiment station of the Middle West and the first forest experiment station in the United States.

Many Varieties of Trees Were Tested

The white oak, black cherry, European larch, bald or Southern cypress, white ash, yellow locust, and catalpa are among the varieties largely planted, but many others were also tested.

It was with peculiar pleasure that I looked upon trees planted nearly half a century ago, and watched with loving care ever since. These trees now stand as living monuments to the useful life of Dr. John A. Warder.

He was truly the "father of American forestry" and one of the great promoters of American horticulture. As I saw the work of his hands, the rare and beautiful trees he had planted, and realized what this man had done for the cause of forestry, I thought that the lesson of his life should be preserved to future generations. This might be done by having the County of Hamilton, for which Doctor Warder did so much, purchase the old homestead and turn it over to the state to be maintained as a state forest park.



OLD HOME OF DR. JOHN A. WARDER

This would not only be a fitting monument to a man who deserves the honor, but would give to all the people of the state a personal ownership in a place that many would like to visit. As the place is invaluable to Ohio students of forestry, it might very appropriately be placed under the care and direction of the forestry department of the Ohio State University.

WILLIAM R. LAZENBY.

◈

I WONDER IF THIS IS SO?

"It used to be asked by young men, 'Where can I earn something?' Now the question seems to be, 'Where can I get something without earning it?'"

The old farmer who said that to me not long ago was a man of keen perceptive faculties. He had made his mark in the world as few men have. He came into the country when a young man, settled down in a big piece of woods, and began to cut down the trees and work out his home. The oaks he worked up into barrel and other staves, which was then quite a business with the farmers. The other hard woods he burned—some of it, at least—into salts, another favorite way of getting money in the early times of our country. The hemlocks and less valuable woods he rolled up into log heaps and burned. If we had that lumber now it would be worth twenty dollars a thousand; but that is another story. I wish we might think for a moment about that statement of the old farmer who has in the way spoken of done what few men of his day have on the farm.

He was in dead earnest. He saw a great many things that were being done by the men of his day. He had been reading about the graft we hear so much about, and he felt that the same spirit which dominates the big corporations is getting its fingers on the lives of many of the farmers of this country. It made him serious, and no wonder; it is enough to make us all solemn. Then he spoke the sentence which stands at the head of this article.

But is it true that men, and especially young men, are asking the question, "Where can I get money without earning it?" any more than it used to be?

Look on the Bright Side

Now, I am naturally a man who likes to look on the sunny side of things. A streak of sunshine does me as much good as a bushel of oats does a hungry horse. I like to keep my face toward the morning. A smile is worth more to me than a frown, any day. I like to talk about things that are helping men up toward the light; and so I would rather see the bright side of everything than to be always looking for something with which to find fault; and so I am inclined to be careful about believing things like this.

I believe that human nature as a whole is growing better. This is a big country now. We sometimes do not think of this. When we take up the morning paper and read all the terrible things that have been happening in the world while we have been busy plowing or taking care of the cattle, it seems to us as if all the nations of the earth must be going wrong. So much evil, so many crimes, such awful things as are done by men in high places!

But we do not stop to think that there are now millions to do things where there used to be dozens. And then, the papers gather up all these things. There did not use to be so many newspapers, all hunting the world over, up and down, and poking their noses into every little family matter, and writing it up, to go all over creation before morning the next day. I think the people of the olden times were a little better off in that respect than we are. They did not know all the wickedness that was going on.

Honest Labor

But here is the real case in hand. There will always be men who would rather work their finger nails off to get something for nothing than they would to earn an honest dollar. There have always been such men; there always will be. Comparing the population of the present with that of the bygone days, I am inclined to doubt that there are more men trying to get a living by their wits than there used to be. There may be neighborhoods where that is true, and probably that good old man lived in one of these; but we need to get up high, where we can look all over the country, when we make wholesale statements such as that given above.

But there is not much satisfaction in saying this, unless we can go on and say that we think the world is a little better than it was when we were boys. If we could only say that, it would be worth while. We all know that there are shiftless men—men who want to get money without doing anything to earn it. We all would be glad if there were none of these. Are not we all so sorry about it that we are doing the best we can to make it less true? That is the question every one of us should ask ourselves now.

But farmers haven't much chance. Who said that?

The very farmer who had his doubts about the young men of to-day being as ready to earn their money as they were in his younger days has told me more than once that it had always been his aim to leave the world a little better than he found it. Now, that was a good ambition. In carrying it out he has cut the farm he owns out of the wilderness; he has cleared his various fields up nicely; he has plowed and sowed the best he could; he has set out fruit trees; he has raised a good big family of children; he has voted right as a citizen; he has spoken all the good words he could; he has lived a good, square, manly, upright life, and his neighbors respect him for it.

Being a Good Farmer

But are there no men doing the same thing now, aside from this one old man? Seems to me so. You can find thousands of good, honest, hard-working young farmers to-day all over the country. They are making the business of farming a better business than it ever was before. And we are all proud of them. It is a greater thing to be a good farmer now than it was a hundred years ago.

But, friends, it would not be right nor fair for us to pat ourselves on the back, and say, "I'm all right. I'm the best fellow in the world. There never will be any honest men after I am gone."

In Abraham's day they had hard work to find a single really good man in Sodom. But where is the city now, where is the neighborhood, be it ever so lonely, that has not many good, true, honest, earnest men? But are you and I among the number? That is the thing we want to be sure about.

We can settle it for ourselves. Are we doing everything just the best we can? Do we pack our butter so that the jar will have full pounds in it? Are our apple and potato crates right up to the standard, and do we put a full bushel in them when we go to town? Are we paying dollar for dollar? Are we keeping a steady hand on everything that pertains to good citizenship? Are we kind and loving and true in our home life? Are we putting ourselves, body, soul and spirit, into this matter of living day by day? If not, there is something for us in what our good old farmer friend says. And right now is a good time to stop and consider the question, honestly and fairly. Don't you think so?

EDGAR L. VINCENT.



MANURE TROLLEY CARRIER AND SPREADER



TWO ROWS OF YOUNG WHITE OAK PLANTED BY DR. JOHN A. WARDER, NORTH BEND, OHIO

Raising the Very Best Crop of Corn

R. C. S., a farmer living in the eastern part of Illinois, writes: "This is a pretty good corn country, and corn is now bringing seventy cents a bushel, and things generally seem to indicate that this price, or something very near it, is to be maintained. Now, I am in debt a good deal, and I want to get out as soon as I can, so I have put every foot of my land in corn, except a little bit in feed oats and an acre of clover. Can you tell me of anything I can do to make the crop an extra good one? I want to grow every ear I possibly can, and I want the ears as big as I can get them to grow. I have plowed the land well, part of it twice, because a heavy rain beat it down after I had plowed it the first time, and my seed tests extra good in germination. If you can give me any hints about what I should do to get the biggest yield possible I will be thankful. FARM AND FIRESIDE has been my guide for many years, and if I had followed its teachings more closely I would now be out of debt. But you know every fellow thinks he knows best what to do. I am getting over that, and now am willing to test advice."

There is a whole lot of things to be done to make an extra good corn crop, and the biggest half comes before the plant is started. Fertilizing and preparing the soil and selecting and planting the seed are the main factors in the production of a good crop of corn.

The Soil Mulch Imperative

After the plants appear, thorough cultivation is imperative. You should aim to keep a mulch of loose soil on the surface all the time. As soon as you can get on the land after a shower you should break up the crust which is sure to form. I would not run the cultivator deep enough to disturb the roots much. Skip along as fast as the team can walk and just stir the surface two to three inches deep.

In naturally damp spots the shovels may be sent down fully four inches, with benefit to the plants. In these damp spots the soil packs hard and the feeding roots of the plants cannot get through it to reach the quantity of fertility required to make a full yield of grain. Break up these tough or heavy spots deeply at first, and be sure they remain broken. The only thing that will naturally break up and lighten these tough or damp spots is humus, and if that is lacking, we must break them up with the cultivator. Once broken up and aerated properly, it usually is not difficult to keep them mellow all through the season by simply keeping a mulch of loose soil over them.

One of the best crops of corn I ever saw was cultivated the third and fourth of July, when the plants were as high as my head. The cultivator was run four to five inches deep, the soil being filled with fine roots which were all broken off. The yield was eighty-four bushels to the acre, while that part of the field I did not have time to cultivate yielded only sixty-one bushels to the acre. It was not breaking off the roots that increased the yield, but loosening up the soil and aerating it—breaking the crust that had formed over it.

Keep the Crust Broken Up

A good farmer of my acquaintance once stated that a few weeds or a little grass among corn did not, in his opinion, injure the yield one tenth so much as a hard crust on the surface before the plants entirely shaded the ground. He said, "Keep the crust broken up all the time, cultivate with that object in view, and I'll bet there will be neither weeds nor grass to do any harm." He was a thorough farmer, and when anybody raised any corn, he did, and the yield usually was about a third greater than that of his neighbors.

If the seed planted by R. C. S. was good he will probably have a full stand of plants, probably three to five to the hill. To secure the best yield he should not have in any hill more than four plants, and if a majority of the hills contain only three strong plants, so much the better. Before the plants tassel—even show the tassel—it will pay him to go through the field and remove every weak stalk, every stalk that looks like it will not bear a good ear. He will find a good many of them; but as they yield nothing, they are useless in themselves and a detriment to the plants that will yield good ears. If he will put them in small shocks to cure they will make good fodder if gotten under cover as soon as cured. I would get these weak and grainless stalks out if I had to cut them down and let them rot in the field.

As I predicted some years ago, the time is coming when corn will be corn. We are in the beginning of that time now, and those who live in what is termed the corn belt are in luck.

Corn Land is Valuable

Men who are not very old can well remember the time when millions of bushels of corn were sold in market for eighteen to twenty cents a bushel. At that time many farmers predicted that corn never would reach forty cents a bushel. A leading stock feeder said in a farmers' meeting, "Corn will some time go to above fifty cents a bushel, and never again get below that figure. I may not see that time, but these young men will, and a farm of good corn land will be the most valuable piece of property one can own."

Within the past ten years we have learned a good deal about growing and feeding corn, but there is a whole lot more to learn, and hundreds of men are at work on the problems to be solved. We have already learned enough about growing it to be able to grow a hundred bushels on an acre—that is, we have learned what is required, and we find that it is no great feat if we go about it right.

Thirty-six years ago an old Yankee farmer living in a locality where I was working on a farm startled the farmers by declaring that he could, and would, grow a thousand bushels on ten acres of his land. People offered to bet him various sums that he could not. He was a good old man and would not bet a penny, but he had three of the best farmers of the locality to measure the land, and to be present, one at a time, at the husking. The actual yield turned out to be one thousand and forty-two bushels.

Since that time I have seen many small fields, three to twenty acres in extent, on which from a hundred to a hundred and sixteen bushels an acre were raised. In every instance the land was either clover sod or old pasture. The soil was prepared as for a garden, the best seed planted, and the plants thinned to four strong ones to the hill. The soil was kept thoroughly tilled, mellow and entirely clear of weeds and grass. When the plants were shoulder high all the weak, slender ones that appeared to be unable to form a good ear were cut out. The soil was worked toward the rows to some extent in cultivating the last time, to aid, the growers said, in supporting the stalks in case a severe storm should happen along. The soil was not ridged along the rows, but merely worked toward them. It is not possible to grow a hundred bushels an acre on all soils, but it pays to get as near it as is possible.

FRED GRUNDY.

Importance of Humus in Soil Improvement

NO MATTER which of the various methods we select for increasing or maintaining the fertility of our soils, we find that humus plays an important part. It performs many functions in the soil which are essential to plant growth. It influences the action of the soil toward heat, light, moisture, penetration of roots and its behavior toward the implements used in its cultivation, and directly or indirectly it controls to a large extent the four essentials to plant growth—water, nitrogen, phosphoric acid and potash.

Numerous experiments have shown that the decline in the crop-producing capacity of the soil is not the result of the removal from the soil of nitrogen, potash and phosphoric acid, but is due in many cases to getting the soil out of condition through the loss of humus. For proof of this assertion we may analyze soils taken from some of the abandoned farms of the East and from the fertile prairies of the West, and yet there will be but a small difference in the amount of plant food that these soils contain. In the former soil a plant would actually starve, while in the other it would find an ideal condition. Remove the humus from the prairie soil and the plant would be in the same condition as the plant that was in the former soil. The most important difference, physical or chemical, between the composition of old worn-out soils and the new soils of similar character is in the amount of humus which they contain.

Crop Rotation is Necessary

In order to maintain an adequate supply of humus, and in this way preserve the fertility of the soil, it is absolutely necessary that we adopt a system of crop rotation in which clover and grass play an important part. Theoretically, rotation of crops will deplete a soil faster than the one-crop system of farming, but actual experiments prove conclusively that land will keep in a higher state of productiveness when a rational rotation of crops is followed, than when one crop is grown continuously, although more nitrogen, phosphoric acid and potash are removed from the soil.

Scientific investigators have estimated that the natural supply of phosphoric acid and potash in the average soil is sufficient for the production of five hundred annual crops, and that the supply of nitrogen is sufficient for less than one hundred crops. The practical fact that I desire to make plain is that we need to understand how to convert this potential energy into active energy in a manner so that it shall supply the needs of the growing crops and at the same time shall not be wasted.

Humus as ordinarily obtained from the soil contains from four to twelve per cent nitrogen; hence, we can readily see how a loss of humus results in a loss of nitrogen.

Humus Supplies Nitrogen

Some of our agricultural spellbinders will preach subsoiling, dust mulch, deep plowing, lime, potash, phosphoric acid and the use of expensive commercial fertilizers, summer fallowing and various other methods, but when we get right down to common sense and consider the whole matter in a true and practical manner we are not long in discovering that any and all of these processes are dependent upon an adequate supply of humus in the soil.

Bare summer fallowing is practised by many and is beneficial to the succeeding crop in many instances, as it increases the amount of available nitrogen in the soil; but on the other hand it is a very extravagant practise, for a large per cent of the nitrogen made available is lost by soil washing and by escaping into the air before it is needed by the succeeding crop.

Subsoiling is valuable in many instances, for the reason that it enables the roots of plants to go deeper into the soil in search of certain mineral elements in the subsoil; but on most soils it adds very little to the amount of available nitrogen.

Dust mulch conserves moisture and acts on somewhat the same principle as a cover, thus preventing the escape of nitrogen into the air through evaporation.

Deep plowing and thorough cultivation aid in nitrification, and the longer a soil has been cultivated, the deeper and more thorough should be its preparation. Deep plowing must be done in the fall, so as not to interfere with the next year's water supply.

The application of lime adds no actual plant food, but it aids in the reduction of the nitrogen in the humus to available forms and corrects the acidity of the soil.

Potash and phosphoric acid may be used with profit on many soils that are well supplied with humus and nitrogen. This practise is finding great favor in some sections of the states of Delaware, Maryland and Virginia, where the farmers depend upon the legumes as a source of nitrogen and humus.

Commercial fertilizers should not be used at all without a sufficient supply of humus in the soil. The injudicious use of these expensive fertilizers stands as a barrier across more than one man's path to success, and will lead to soil ruin faster than any system of cropping that may be followed. We may grow all of the nitrogen that we want. If clover and alfalfa will not thrive, grow cow peas, for they are about as good as clover, so far as supplying nitrogen is concerned.

The Best Humus Producers

Clover and the other legumes are better suited for plowing under to form humus than any other class of farm crops, because in addition to supplying humus-forming material they add large amounts of nitrogen to the soil.

On farms where live stock is kept, and the crops fed out and the manure returned to the fields, there will be little danger of the supply of humus giving out, for the various kinds of food that are grown to feed the animals will make it necessary that a variety of crops be grown and some definite cropping system followed.

Whatever the line of farming we follow, and whatever the kind of fertilizers we use, it will be impossible for us to produce the largest possible crops unless we maintain an adequate supply of humus in our soils. W. MILTON KELLY.

CARING FOR THE WHEAT

From the time the wheat stands waving yellow in the field until it is in the hands of the miller is an important period. The cutting of the wheat may not be a difficult task, but much depends on how well the grain is gathered and bound and shocked. If the machine does not gather the grain well, a good deal of it will be lost falling down before the sickle or stringing out from beneath the aprons. Care should be taken to avoid this. The binder should also gather the straw evenly, so that the bundles may not look ragged or part be lost in the shocking. The binder should be shifted just right, so that the bundles may be bound near the middle. Binding too close to the butts or heads will make them inconvenient to handle, as well as cause the dropping out of a part of the bundles.

The shocking of the wheat is very important, especially in those sections where rains and winds are frequent. The bundles cannot be thrown together any old way and be expected to stand the storms of wind and rain. My experience has proven that the best and strongest shock is made in the following manner: Place three pairs of bundles in a row, then set one bundle at each end and three on each side. The caps should be placed on lengthwise of the shock and spread so they will cover the top of the shock and hang down on the sides, protecting the heads of the wheat and turning the water like the roof of a house. For twenty years we built our shocks in this manner, and seldom ever lost any wheat from winds or rain. It was often necessary to go over the field after a severe wind storm and replace some of the caps, but seldom did we have to rebuild a shock.

After the wheat is all cut and shocked it is the best plan to have it thrashed as soon as it will do. It can then be stored away in a rat-proof granary or hauled direct to market. We believe it is wise to sell immediately after thrashing. The higher price for which one may hold will not more than offset the shrinkage and loss in handling, and sometimes the higher price is never realized. A person had better take a few cents less than run the the risk. W. D. NEALE.

HINTS ON HAY STACKING

On account of lack of barn room many tons of hay must be stacked outdoors. There oftentimes is considerable loss with this method. There needn't be, though, if the work is properly done.

In the first place, a good foundation is necessary. If the stack is set directly on the ground, even though it is a high, dry place, a half ton or more of hay will be spoiled.

Perhaps the best form of foundation is made by placing boards across "stringers" of rails or logs. If the boards are close together the hay cannot absorb moisture through them from the ground. Especially will the hay at the bottom keep perfectly if the air can circulate under the stack foundation.

The second loss from outdoor stacking comes from building the stack improperly. I have helped open stacks where the hay was rotten or moldy from top to bottom as a result of rains soaking in. I could have stacked this same hay so it would have been as nice and sweet (except that exposed) as if stored in a barn.

I do stacking in a systematic way. The nearest cocks are carried onto the stack foundation with two light poles. A cock is set on each corner, then as many between and into the center as there is room for.

After more cocks have been carried to the stack or a wagonload of hay hauled beside it, the systematic stacking commences. I commence at one corner and lay a layer of hay around the outside of the incipient stack. I aim to stay several feet away from the outsides, so they will be left looser, and thus settle more than the central portion.

After the first layer around the outsides has been finished, another one is started several feet nearer the center. This second layer must lap enough onto the first one to hold it well. Also make the second layer thicker or higher than the outside one. Continue in this way until the center of the stack has been reached, each succeeding layer being made higher. After the center has been well filled and tramped solid, the stack will decline toward the outside on all four sides. The greater the slant, the better will the finished stack shed water.

The slant is somewhat dependent on the kind of hay being stacked. With marsh or prairie hay the decline from center to outside cannot be so steep as with tame hay without the first (outside) layer slipping out.

I commence my stacks considerably narrower than they are to be, and afterward keep on widening them with each outside layer until near where they must be narrowed again.

The "drawing in" of stacking must be quite gradual, so that water will not have a chance to soak in anywhere on the sides.

Remember to always keep the center well filled with hay and tramped down tight. Here is where many fail. They stay more around the outsides. Throw the hay loosely into the center. Then the outsides, being tighter, will settle less than the center, and a cup-shaped stack is the result. The water will be led toward the center of the stack during heavy downpours instead of being drained off the outsides. F. A. STROHSCHEIN.

SEEDLESS FRUITS

The much-talked-of "Spencer Seedless" apple, which went up like a rocket, has finally come down like a stick, not even with the proverbial "dull thud." The worthless thing, thanks to the warnings of the better class of the agricultural papers, has met its deserved fate, and the public interest in it has entirely died out. Interesting, however, is a correspondence in the "Gartenlaube," a high-class German illustrated journal, giving the information that near Braubach-on-the-Rhine a so-called seedless apple has been known for over a hundred years, and is now locally grown in a commercial way. This is the so-called "Father apple without seed," an apple resembling in general outward appearance and coloring our Maiden Blush, but in its home a long-keeping and much-appreciated dessert apple.

Undoubtedly this apple transferred to our own winter-apple regions would be liable to turn out an early winter apple. It would have to be an uncommonly good apple, aside from its seedless character, to induce American orchardists to take much interest in it merely because it happens to have only a mere suggestion of seeds and seed cavities.

The seedless apple is not of the same smooth and uniform texture clear through the center, so that it would cut like a banana or a piece of cheese. The mere rudiments of seeds and mere suggestions of carpels are objectionable, and the core must be removed or be left just the same as if the apple contained seeds.

I cannot say that I ever in my life have become very enthusiastic about seedless fruits. I may at times have wished that we might be able to raise a seedless watermelon, but it is certainly carrying things too far when some one asks for seeds of the seedless watermelon.

T. GREINER.



SHEEP IN WOODLAND AND PASTURE

A BLUE MARK

in the square below indicates that your subscription *has expired.*

Please renew it promptly and we will send you, without extra cost, a wonderful mezzotone reproduction of President Roosevelt, 13½ by 20½ inches, composed of 500 different pictures of our greatest living American. There is no advertising on it, and it is reproduced on the finest coated stock. The original photograph cost $1,000. Send your subscription promptly to FARM AND FIRESIDE, Springfield, Ohio.

Review of the Farm Press

THE FARM BARN

THE question when planning a barn will be, How can I get the most room for the least money, and also a building that will last, is handy to put the hay in and to get it out, to let the stock in and out, to take in bedding, and to take out the manure, and enough windows for light and ventilation? In my judgment, neither horses nor cattle should stand in stables in the daytime unless the weather is very severe, and even then they should be turned out part of the day.

My experience teaches me that the most room and the handiest barn can be had for the least money by putting up a barn about thirty-two by fifty feet on a one-hundred-and-sixty-acre farm—this the main building, and take that all for hay. The weight of the hay then rests on the ground, and you save a lot of heavy timbers which would be needed for posts, cross beams, joists, etc., and the lumber necessary for a floor. The hay can just as well rest on the ground.

Next put a shed on one side, for horses and the hay, and a shed on the other side for cattle. If more room is wanted, sheds can be put on three sides. The cost for a floor and the timber to hold it up in the main part would pay for the sheds, and you have much more room for hay. Do not make the mistake of filling up the hay part of your barn with posts, cross beams, braces, etc., as these will increase the work of both putting in and taking out the hay.—C. Keller in Wallaces' Farmer.

◈

CHANGE THE PASTURE

So many shepherds have found worms to be the bane of the flock that all possible means of prevention should be made use of. Sheep find the greatest source of contamination out in pastures where sheep have been grazing for several years. Sometimes this does not prove true, but there is always the danger to be faced when the same pasture is used two or more years. It is only where a very few sheep are kept and attended strictly to keep them free from worms that the old pasture can be used year after year with any degree of safety.

When left in the grazing lot by worm-infested sheep, these worms will still live. They pass through the different stages of their peculiar cycle of development until another year comes around, when they are found in the pupæ state attached to blades of grass in the pasture. When swallowed by the sheep, the pests begin once more the activities of their particular field of action, so well known to the sheep owner.

It is a difficult matter to treat a large flock for worms. An ordinary vermifuge will not expel them, and too strong a dope is quite apt to finish the sheep. An annual change of pasture is the safe course to pursue in any case, as sheep that are already affected will be improved, and new members of the flock will be thus rendered immune. A dry, hilly pasture will be found best in this regard, for the parasites develop more surely in low, damp areas. A dry summer is also equally of advantage in the lessening of the numbers.

In some parts of England the pastures are so badly infested with these troublesome parasites that sheep raisers aim to fatten the lambs for market some time in June, before the worms are in evidence. The earlier they are marketed, the higher the price. Then, in addition, remains the fact that this grass land may be better used in the support of the older wethers, which do not appear to be so susceptible to the attack of the parasites that would probably kill the lambs.—The Wisconsin Agriculturist.

◈

ALFALFA FOR DAIRY COWS

The value of alfalfa from a chemical standpoint is shown in the following table:

DIGESTIBLE NUTRIENTS PER 100 POUNDS			
Name	Protein	Carbo-hydrates	Ether Extracts
Alfalfa	11.0	39.6	1.2
Wheat bran	12.2	39.2	2.7

This table shows that every one hundred pounds of alfalfa contains eleven pounds of digestible protein and that wheat bran, which has for a long time been held in high regard as a feed for dairy cows, contains only 12.2 pounds of digestible protein. If an average sample of alfalfa contains eleven per cent of digestible protein, a good quantity of alfalfa hay will contain practically as much digestible protein as bran.

Records obtained at our experiment station and from farmers over the state indicate that we can produce at least four tons of alfalfa to the acre. If our dairy farmers could produce four tons of bran to the acre, they would think that they were doing well, but here is a chance to produce four tons of the equivalent of bran.

ALFALFA AND LINSEED MEAL

Linseed meal at the present time is worth about thirty-five dollars a ton. A ton of oil meal contains 586 pounds of digestible protein, and as we buy oil meal almost solely for that ingredient, we might value it upon its protein content alone, which would make the protein worth six cents a pound.

A ton of alfalfa contains 220 pounds of digestible protein, which at six cents a pound would be worth $13.20, and if we got four tons to the acre, we would have a value of $52.80. Of course, for a dairyman to realize this much from an acre of alfalfa, he must feed judiciously and in proper combination with other feeds, but if he realizes only one half of this amount, he is getting excellent returns from his land. As Wisconsin farm land increases in value, it becomes more and more important that we increase the value of our crops an acre, and the growing of alfalfa is one of the best steps in that direction.—D. H. Otis in The Wisconsin Agriculturist.

◈

WHAT THE GOVERNMENT IS DOING FOR THE BASKET-WILLOW GROWER

One of the most unique experiments of the government in tree growing is the work in basket-willow culture at an experimental holt at Arlington, Virginia, just across the river from Washington. The holt is located on an experiment farm on rich Potomac bottom land on the slope of the river bank about six feet above the water level. Twenty-eight contiguous plats, ranging from one to six square rods each, were planted several years ago with four varieties of approved basket willows to determine the best methods of management and its influence on the growth and quality of the rods produced.

Experiments show that the commercial quality of the rods grown in this country under proper care and management is equal or superior to the finest of those imported from France or Germany. The management ordinarily employed by American growers does not yield rods with the proper requirements for high-grade wicker work. The very gratifying results of the management devised by the United States Forest Service, which is conducting the experiments, have awakened considerable interest, and will no doubt revolutionize the basket-willow industry of this country.

Perhaps the best evidence of how signally the government has succeeded in its endeavors is shown by the fact that a great many farmers, as well as manufacturers of willow ware, have been encouraged to plant basket willows for profit on lands hitherto considered entirely useless.

The experimental planting in the holt at Arlington has proved that close spacing in and between the rows is a matter of paramount importance to basket-willow growers. The tests on close and wide spacing were made by setting the cuttings of all the varieties propagated at a distance of six inches apart in the row by eighteen inches between the rows, nine by twenty-one inches, and twelve by thirty-six inches. The form and quality of the rods produced under these different systems of spacing show decidedly the advantage of close planting. Considerable pains were taken to arrive at a satisfactory solution of this important problem. The stock produced on these different plats was carefully weighed and compared both before and after peeling and drying. The American green willow (Salix amygdalina), so commonly planted both in Europe and in this country, yielded the following encouraging results:

Spacing	Weight of Peeled Rods per Square Rod
6 by 18 inches	44.3 pounds
9 by 21 inches	49.4 pounds
12 by 36 inches	38.7 pounds

These figures, which represent the weight of dry peeled rods to the square rod for different spacing, indicate that the proper planting distance for the American green is nine by twenty-one inches apart, the highest yield in weight being produced by this method.

Careful counts were made to ascertain the number of commercial rods produced on a square rod for different spacing. The following table shows the average figures:

Spacing	Number of Rods per Square Rod
6 by 18 inches	782
9 by 21 inches	517
12 by 36 inches	350

The number of rods on the plat where the stools are set six by eighteen inches apart exceed those on the plat where they are planted nine by twenty-one inches apart. The rods remain considerably shorter, however, and a larger percentage of weight is lost in removing the bark from small rods than from larger ones. The grower, therefore, profits by adopting the latter method.

It was found that the average number of rods to the stool and average weight of a rod increased proportionately as the spacing distance increases.

The enormous yield of rods to the acre has been carefully computed both in pounds and in money value under the different systems of spacing.

Spacing	Yield per Acre	Value
6 by 18 inches,	7,088 lb at 5c. a lb,	$354.40
9 by 21 inches,	7,904 lb at 5c. a lb,	395.20
12 by 36 inches,	6,192 lb at 5c. a lb,	309.60



DUTCH BELTED CATTLE. FIRST PRIZE EXHIBITORS' HERD AT THE NATIONAL DAIRY SHOW IN 1907

An experiment relative to shading out weeds by close spacing has been satisfactorily demonstrated. On plats where the stools were set at distances of six by eighteen inches or nine by twenty-one inches apart the weeds were all thoroughly suppressed after the second year. The weeds continued to be exceedingly troublesome after the second year on plats where the stools were spaced twelve by thirty-six inches apart. Under the intensive system of managing a holt, the grower not only secures a heavier yield of high-grade rods, as shown in the tables above, but at the same time saves considerable labor in keeping the holt clean of weeds. This is a demonstrated fact which will prove to be of the most vital importance to all growers.

Many other very important considerations were included in these experiments, such as the effect of low cutting on the yield and character of the rods and on the vitality of the stools themselves. A careful study was made of the proportion of the wood to bark and of the comparative weight of the peeled and dried rods for each variety. Special investigation was made with reference to the utilization of willow bark obtained from peeling the rods. It has been shown that the bark of most varieties contains sufficiently large quantities of tannin to make them useful to tanners, and it is hoped by those concerned in making these investigations that this enormous waste may be turned to economic use whereby growers may realize additional revenue from the sale of bark.—United States Forest Service, Farm Bulletin No. 1.

MANURE ON SOD

We have a clearer understanding year after year of the importance of good sods. They lie at the foundation of good farming for most land. They must be the first consideration unless one is content to see land go back in fertility. Stable manure is the best source of quickly available plant food that the farm possesses, and land should have whatever share of the manure supply it needs when making a sod. If it makes heavy sods without dressings of manure, then certainly the manure can go for corn, etc. On the other hand, if it needs manure to grow good clover and grass, the practise of withholding it and converting the manure directly into corn must be all wrong. The use of the year's supply of manure is determined by the character of the sods produced by the various fields.

I know that some readers will say that the manure is essential to the corn, and they must have that crop. But if manure had been used to grow clover and grass, double results would have been gotten from it. There would be more hay for feeding and more fertility in the clover sod. A light dressing of manure worked into the surface soil before seeding down, and a dressing after harvest, will bring bigger returns than an equal amount of manure could bring in the form of corn. The man who can make sods heavy will find that soil fertility will take care of itself in a large measure.—Alva Agee in The National Stockman and Farmer.

◈

PREPARING THE WORK HORSES' RATION

If maximum results are expected, it will pay, and pay well, to use a ration composed of either oats or corn, half and half, or one composed of corn two parts, oats one part and bran one part. The latter would simply mean half corn and the other half made up of equal parts oats and bran.

Horses fed this variety will not only show more snap, but they will keep in better condition than if fed straight corn, providing, of course, that the work is rather strenuous. Bran has a more or less laxative effect on the bowels, and when horses are working on the farm, this is desirable. Bran also contains a large per cent of flesh-forming material, and it is this material that is required when a horse is hard at work. Of course, a ration of straight oats is hard to improve on, but at the present prices they make a somewhat expensive feed. As oats are light this year, possibly as good results as usual will be obtained, yet one of our experiment stations has recently found that, pound for pound, light oats are practically equal to heavy oats in feeding value. According to this teaching, if the same weight of the 1907 oats is fed as is usually fed, the results will not be materially different.

We cannot give advice relating to the quantity of grain that ought to be fed to horses, because so much depends upon the character of their work and their weight. In a general way, however, a horse at hard labor will consume from one to one and one fourth pounds of grain a day for every hundred pounds of his weight. And, by the way, it is a safe estimate to give him no more than one pound of hay daily for each hundred pounds of weight.

Generally speaking, farm horses are fed too much hay, while, as a matter of fact, from ten to fifteen pounds a day is plenty for the horse getting a good ration of grain. According to this estimate, a horse weighing twelve hundred pounds will consume fourteen or fifteen pounds of grain daily, while a horse weighing sixteen hundred pounds will need at least twenty pounds a day, providing he is kept at hard labor and it is the intention to keep up his weight.

If only corn is at hand, we believe that under most circumstances it will pay to sell some corn and replace part of it either with oats or bran, or both.—J. P. Fletcher in The American Cultivator.

◈

There have been many complaints of fatalities among horses as the result of feeding moldy corn. Those who have nothing but last season's crop are advised to feed only shelled corn, as the danger seems to lie in the cob. The ear will look smooth, hard and wholesome, but upon breaking it open the cob is found diseased. The fodder is also in bad condition, and it should not be fed to horses.—Farm Journal.

Fruit Growing

BY SAMUEL B. GREEN

PINES AND NORWAY POPLARS

P. H., Isanti, Minnesota—Cultivation about pine trees is preferable to mulching, but a coating of a couple of inches of pine needles, leaves or well-rotted chip dirt or bark would be a good thing to put around them.

I think the best time to plant evergreens is just as the new growth shows a little sign of starting in the spring. As a rule this is about the first of May, but they can be planted even after growth has started an inch or two, provided the work is carefully done.

I know there is much talk about the Norway poplar nowadays, and the planting of it is liable to be overdone. This tree so closely resembles the common cottonwood in general appearance that it is impossible, or almost so, to tell them apart. I regard it as nothing more than a cottonwood which has unusual vigor of growth. It is a desirable tree and should be planted in favorable locations for use as lumber. It is not well adapted to dry land, but will grow on sandy land, provided the water table is near the surface of the ground. On account of Norway poplar being identical in appearance with the cottonwood, unscrupulous dealers may substitute for it without much danger of detection.

The golden willow does not do well on dry soil, and if it has a setback when first planted it will often be a long time in recovering. However, it is a very fine tree with a round head when growing under favorable conditions. The willows could undoubtedly be mulched with bark or manure to good advantage. Anything that will keep down the growth of weeds and keep the moisture from being dried out of the soil is helpful to the tree.

You do not state the kind of pines you planted. On your land the best pine to plant is probably the native Norway pine, also known as red pine, which is an admirable tree for such locations in eastern Minnesota.

SPORT FROM OSTRICH-PLUME FERN

A. R., Indiana, Pennsylvania—The Piersonii fern is a bud variation from the old Boston fern. Such variations are generally constant, but occasionally they go back to the original form, and no one can tell why. They generally preserve their variations when thoroughly well cultivated, and if neglected are most liable to reversion.

We have a large number of plants in cultivation that have originated as bud variations. For instance, the white rose known as The Bride is a bud variation that appeared on the Catherine Mermet many years ago. That is, a branch appeared on the Catherine Mermet rose that produced white roses. When this branch was propagated it retained this characteristic. Frequently variations of this sort appear on plants, but are not constant. It would be quite easy to name many ornamental plants that have originated in this way. However, I do not think of many fruit plants that have come to us in this way. These are generally seedling variations.

I am inclined to think that if you were to give your fern more fertilizer and pot room that it would probably take on its old plume-like habit.

SAVING SEEDS OF ROSES—PROPAGATING THE CURRANT AND GOOSEBERRY

E. L. G., Cattaraugus Station, New York—In order to save the seeds of roses the capsules should be gathered in the autumn before they fall off, and be crushed. As soon as soft, mix with perhaps ten times as much sand. These should be left out of doors all winter to freeze and thaw. In the spring the seed may be sown in a flower bed, or, better yet, in a box in the house or in a hotbed. As the seedlings come up and get their third leaves they should be pricked out so as to have room enough to grow.

The currant is generally propagated by cuttings, which are preferably taken off in September or October. If these are planted out at once in the ground, putting them at least six inches deep and leaving not over one inch of the cuttings out of the ground, they will be rooted by the time freezing weather sets in, and will make a good growth the next year. They can sometimes be made in the spring, but they do not grow as well as by the method described.

Currants may also be layered by covering some of the branches with three or four inches of earth, allowing the ends of the young growth to stick out of the ground. This may be done at any time, but to best advantage in the spring.

Gooseberries are generally propagated by layers. While some varieties may be propagated by cuttings, they are not at all sure to grow in the hands of the average grower. It is customary to layer gooseberry plants about the middle of June after the new growth is well started. At this time a main stem with a large number of young branches on it is laid over on the ground and covered with three or four inches of earth, allowing the growths of the season to stick up through it. The earth is packed down firmly. By autumn it will be found that most of these shoots have produced roots, when they may be cut apart and planted out the same as recommended for cuttings. It is customary to put currant cuttings and gooseberry plants of this kind about six inches apart in rows two to three feet apart.

THE MOST PROFITABLE FRUIT CROP AND SUCCESS IN FRUIT GROWING

G. K., West Liberty, Ohio—It would be quite out of the question for me to discuss, either to your or my satisfaction, the most profitable kinds of fruit or the most profitable kind of fruit business or fruit section in the limited space that can be used here for the purpose.

Success in life is largely a personal matter, and the same is true of the fruit business. Where one man would make a great success of it, many others would fail for lack of business ability or for other reasons. In a general way the man who is a successful apple grower will probably make a successful orange grower, and would probably succeed either in Ohio, Florida, Cuba, Arkansas or Missouri or any of the other places about which you inquire. However, he would have much to learn in changing to any location, but if he had been a successful apple grower in one section his powers of observation would have been so trained that he would easily solve problems elsewhere in the general line of fruit growing.

In my opinion, Florida offers very excellent opportunities for the growing of oranges in the southern portion, but it is altogether too risky a matter farther north. I have no doubt but that any of the places about which you inquire as to the merits of apple growing are well adapted for the growing of this fruit and that you might be successful in any of them. On the other hand, it will be found important in any of these places to select just the right kind of a location, and it is also important to be near people who will co-operate and make for the maintenance of a proper standard of the fruit business in a big way if the business is to make much progress.

THE SURPRISE PLUM IN NEBRASKA

H. A. M., York, Nebraska—What Mr. Stevens, of Crete, Nebraska, wrote you in regard to the Surprise plum I am inclined to think is true. That is, as a whole the plums from the northern United States do not do well in the Southern states.

On the other hand, we find that this class of plums is the most successful anyway as far south as central Iowa, and on this account I think they will prove quite valuable for Nebraska. In fact, Theo. Williams of your state has made a great success in working with these kinds, and has originated from them many new and important varieties.

I am of the opinion that the Surprise plum will do well in favorable plum sections in Nebraska. At the same time I would hardly want to recommend you to plant it on a large scale until it had been more carefully tried.

I would suggest that you write to Mr. Emerson, Professor of Horticulture at Lincoln, Nebraska, and ask him in regard to the matter, with which I think he is well posted.

OAKS INJURED BY THE TREADING OF CATTLE

C. R. W., Grenloch, New Jersey—The oaks of our Northern states may be divided into two classes. One includes those that have round lobes on their leaves and sweet acorns, and mature their acorns in one year. To this class belong the white oak and bur oak. The other class includes the oaks that have pointed lobes on their leaves and bitter acorns, and require two years in which to mature their acorns.

The former class is not much disturbed by the trampling of cattle about their roots, which roots generally go straight into the ground as a tap root, and they have very little in the way of surface roots.

The latter class, sometimes called the red-oak class, includes the red oak, scarlet oak and pin oak. They seldom, if ever, have tap roots, and produce many more surface roots than the white-oak class above referred to. These are often injured by the trampling of cattle about their roots or by anything that disturbs the ground. This is especially true in the case of trees that have been grown in forests where the ground was covered with leaf mold, in which case the roots are very liable to be found in large numbers near the surface. Borers are also occasionally very numerous, and in this way destroy large numbers of the red-oak class. They are seldom very injurious to the white-oak class. If your trees were formerly in native woods, and are now in a pasture, I think it more than likely that they are being destroyed by the treading of cattle.

As to your inquiry as to the benefits from spading up the earth around them, I think a better way even if the injury is due to the presence of cattle, would be to mulch them, if it is not objectionable, with leaf mold or stable litter to a sufficient depth to keep down the roots. This would keep the surface soil moist and would bring about a regrowth of new surface roots. If you do not want to mulch them, spading up the soil would be good treatment.

DISEASED QUINCE

H. G., Santa Cruz, California—The roughened, warty-like wood is due to some form of canker. The best treatment for it is to cut off the diseased wood, so far as may be, and spray the bushes with Bordeaux mixture. Where the diseased portions cannot be cut off without perhaps seriously injuring the bush, I would suggest that the cankers be pared down and their surfaces painted with thick Bordeaux mixture. I think that these trees should be sprayed three or four times in the season with Bordeaux mixture. Such treatment will probably prevent attacks of canker, and likewise several leaf diseases to which the quince is subject.

FILBERTS NOT BEARING

S. J. H., Highlands, North Carolina—I am inclined to think the reason your filbert does not bear is that you have no other trees of the same species near it, so as to aid it in cross fertilization. However, this may not be the real reason. Filberts have not proven a success in any portion of the United States, although they succeed over a wide range of country in Europe.

I would like to know what the variety that you have in your garden is supposed to be.

PLUMS NOT FRUITFUL

H. S. B., Forest Lake, Minnesota—There were few plum orchards in Minnesota that set fruit in 1907. I do not know just the reason, but think it due to unfavorable weather conditions at the time the trees were in flower.

The warts on the leaves of the plums to which you refer had nothing to do with the lack of fruitfulness of the trees. These warts I think were caused by a minute gall fly.

The leaf which you enclosed I take it is from a basswood. It has some of the small galls on it, which I think are caused in the same way as the galls on the plum.

WORK ON CHERRY GROWING

I. N. R., Seattle, Washington—I think you will find the best treatise on cherry culture is included in Bailey's "Encyclopedia of Horticulture." I know of no separate work on this subject that is as good. You can undoubtedly avail yourself of the article referred to at your public library, but permit me to suggest that it would be a nice thing for you to have in your own library such a treatise as mentioned if you can afford it.

APPLE TREE NOT BEARING

J. B., Zion, Iowa—I do not think there is any remedy for your apple tree which blossoms every year, but never sets any fruit. It is possible that it fails to set fruit because there are no other varieties of apple near it and in flower at the same time; but since the leaves are disposed to be diseased in the summer, and drop off, I am inclined to think it is some variety that is hardly worth bothering with, but just what it is I do not know.

VARIETIES OF RASPBERRIES

E. C. B., Westford, New York—I think the best red raspberry for general planting for marketing purposes is probably what is known as the King, and probably the best blackcap raspberry is the Nemeha or Gregg.

Gardening

BY T. GREINER

SPRING GREENS

I have never before been so much impressed with the importance of spring greens as I was this season. We have usually looked upon the dandelion as a weed pest, and in a measure despised it. For a year or two, however, we have made use of the wild plants as we found them in abundance in the orchards, fields and gardens or in waste places.

If we can find plants that are nicely blanched, three or four inches from the root crown up, at the time when the buds just begin to show, we have in them a most excellent material for greens or salads. Finally I have come to the realization of the fact that the dandelion is about the earliest, best and most dependable of any of our spring greens, and well worth planting in the garden. It has great medicinal virtues. It acts powerfully on liver and bowels, and is one of our best spring tonics, and one of the most wholesome dishes we can put on the table at any time of the year. Spinach is good, but not nearly so hardy, not nearly so stimulating and wholesome and not nearly so easily grown. We can get a mess of dandelions much earlier in spring than our spinach will be fit for use. Seedsmen offer various large-leaved varieties. I am planting several kinds of them now, but I have never found great differences in them except in shape and size of the leaf.

Seed may be sown any time in spring or summer. Make the rows a foot apart, and sow seed thinly, covering lightly. Thin the plants to stand six to twelve inches apart. In good soil they will make a big growth, and early the following spring cover the entire patch with a mass of green. On the whole, I believe that the dandelion for spring greens is a crop valuable enough for more general cultivation.

REMEDY FOR MELON BUGS

A Virginia reader asks for a remedy for "citron and melon bugs" which will not injure the vines. Probably our friend grows watermelons, the citron also being a variety or species of watermelon much used for sweet preserves. The "bug" undoubtedly is the yellow-striped cucumber or squash beetle. This does attack watermelons, but seems to prefer squash, muskmelon and cucumber vines in the order as given. Watermelons planted among any of the other vines here mentioned usually escape serious injury caused by these beetles.

I always spray my vines with Bordeaux mixture and arsenite of lime, but at times I have noticed watermelon vines having been killed or much hurt by the application of Bordeaux mixture. Possibly we must make this mixture quite weak, in order to be safe for that crop. When we use three pounds of copper sulphate, four pounds of lime and forty or fifty gallons of water (or a smaller amount at proportionate rate) we can go ahead without much fear and trembling. Then if you use about three pounds of arsenite of lime with the fifty gallons of the mixture you will have the remedy you can rely on; or use arsenate of lead alone, dissolving one pound of it in about fifteen gallons of water.

BLANCHING CELERY

How to blanch celery is another query by our Alabama reader. The answer is: Blanch it in accordance with circumstances. If you grow the self-blanching sorts, and especially if you want them early and must blanch them in hot weather, then use boards eight to twelve inches wide and of any length. Also, if you have only a small spot of ground available for celery, and must plant close, the board-blanching method is what you want.

Any kind of inch boards will answer the purpose. Set two boards up on long edge, one on each side of the row of plants, slanting toward the plants, and fasten them there by little stakes driven into the ground outside and inside. The space left between the upper edges of the two boards need not be more than two or three inches. This gives room enough for the stalks to come through. Sometimes we just lean the boards against the row of plants, one from each side.

The standard late varieties, such as Giant Pascal, Winter Queen, etc., I prefer to blanch with earth, at least that part of it intended for fall or early winter use. Celery intended for use during winter is usually blanched in the cellar or storage room.

Live Stock and Dairy

THE USE OF THE SILO

THE properly constructed and well-filled silo makes a good record every year; there are no misses. Of course, there are seasons in which its benefits are more forcibly realized by some farmers than in other seasons. In seasons when the hay crop is short, and the farmer must turn to other roughage feeds more than commonly, the silo offers relief from this shortage.

I find that the silo is good for the dairyman, the beef grower and the general farmer—in fact, it is a money maker for all farmers who raise feed for live stock, no matter what kind of stock it may be. I find that many who have used the silo would almost as soon think of quitting farming as of trying to do without it.

The silo offers a method of saving and using the entire corn crop with a minimum of waste, and has given to the farmer a succulent feed for his live stock which is unequaled.

In seasons when there is an early frost, the silo offers a means of saving a crop of corn which would otherwise be almost a total loss. I find from experience that this point alone would justify the building of a silo.

These conditions are liable to appear at almost any time, and the farmer who has the silo ready is the one who will not be forced to buy feed the following winter.

While immature or frosted corn is not the ideal condition in which the crop is desired for the silo, yet a greater portion of it can be saved in this way than by any other method. Corn once frosted becomes of little value as dry roughage feed, and the greater portion of it is lost in hauling; but where placed in the silo, with the addition of plenty of water as it goes in, it will come out in surprisingly good condition.

It is important that it be kept well moistened, or wet, rather, during the process of filling, as the frosted portions are devoid of their natural juices. Immature corn cannot make the best of silage, as it is apt to develop too acid a flavor, but in emergency cases there is less to be lost in this manner than by the non-use of the silo.

Now is the time to be making up your mind to put up a silo this year, if you don't already have one or have not yet reached such a decision.

The earlier this kind of decision is reached, and the quicker it is acted upon, the surer will be the assurance that you will get the greatest value out of the corn crop. Look at the proposition in a businesslike way, and consider it an expenditure of money which is certain to make you money in the end. Such an investment every farmer can afford to make, even though his "money in hand" would not seem to warrant it. The silo will very soon pay for itself, and still be good for many more years of profitable service.

The real cost, considering increased annual returns in crop saving and profitable stock feeding, together with period of service, is nothing as compared with the actual benefits derived therefrom.

I have been a silo user for several years, and each year it has been worth its initial cost, and were it impossible to replace my silo, I would not part with it for many times its cost. R. B. Rushing.

SHADE FOR SHEEP

The farmer who keeps a flock of sheep should remember they need plenty of good shade during the hot summer days. Their coats of wool are of the warmest material, and they need a refuge from the hot sun at the middle of the day. A sheep will seek some kind of shelter, even if it is only that of a fence post. There he will put his head in the shade and try to imagine his whole body is protected from the hot sun.

If there are no dense trees in the pasture, it will be a good idea for the farmer to construct an artificial shade. An open shed with the roof slanting toward the south will be suitable. If this proves too expensive, it will be well to build a shade out of cheaper material. Forked posts set in the ground, on which to support rails, then covered with straw or boards, will be cheap and sensible.

If there is an open shed about the barn, it might be well to let the flock run to this. Here they will shelter themselves from the heat, and at night get accustomed to come to this place to sleep, and thus protect themselves from any dogs that have a tooth for mutton. W. D. Neale.

TEAM ADJUSTMENT

One of the difficult problems in farm management is to adjust the team labor to the needs of the farm. Idle horses are the cause of a heavy expense, and the lack of horses enough to do work when needed is the cause of much loss in delayed crops and reduced yield.

During April and May, if there is enough manual labor to keep them going, almost every farm could use to advantage more team labor than it carries. This year, in particular, with nearly half the days rainy ones, it has been slow work getting crops in. Even with too few horses on hand the time schedule will show a relatively low percentage of efficiency, owing to bad weather. Later on, and indeed during most of the year, even less horses would be more profitable.

How is this problem to be solved? Sometimes it is possible to hire an extra horse or team to help out. This year we did get one horse for a little time, but she was so ugly and disagreeable to work that the transaction was not altogether satisfactory. The situation has been still further complicated, as it no doubt often is, by the failure of some of the help, from one cause or another, thus preventing making the horse time count for the most possible.

Horse labor costs too much for the time employed if the animals must stand idle any great proportion of the time. How can the farm be planned to equalize it? Can we not have a "Round Table" discussion on this subject in the farm-management column? Let me urge each one who has found a way to overcome this difficulty or who has had especial trouble with it to give us his experience. Send your letter to the editor or to me.

Fred W. Card.

HANDLING DAIRY COWS ON PASTURE

To do their best work, cows should be content, and anything that is annoying should be kept out of the pasture. Very often colts running in the same pasture will torment them by chasing and biting them, and when this is noticed, they should be taken out and kept out; also bulls will sometimes torment them, and as they are better off by themselves than running with the cows, they should be kept away. If an animal comes in season, it should be taken from the herd at once, and kept away until the season is over. While the cows are on pasture, the finest products can be produced, as then the animals are clean and well nourished.

Milking cows in the pasture is, I find, the most sanitary way, but it is not in all cases convenient, especially in bad weather, therefore stabling must be practised, more or less.

To keep flies off the animals while milking is in progress I throw over them coarse woven fly covers, and in seasons when the flies are very bad I find it sometimes advantageous to let these covers remain on them during the day.

I think it pays to give some grain all through the pasturing season, even when the grass is at its best; however, very little grain is needed, only a small amount to entice the cows into their places of milking.

When the grass begins to get tough and dry, and the flies are very bad, the grain should be increased and some pasture substitute used. To supplement pasture, green feed of almost any kind will answer. Sorghum, corn, millet, etc., are good, and their high yielding warrants an abundance of feed from small plots of ground. If soiling is not desired, cows can be turned in on small plots of sorghum, cow peas, millet, etc. R. B. Rushing.

DO DAIRY COWS DETERIORATE THE LAND?

"All who feed their cows as cows are generally fed may rest assured that neither the land nor the cow is being depreciated."

I thoroughly agree with this statement, assuming that one's cows are generally well fed. When, however, one says that he cannot comprehend how the soil is robbed more by the cows than if the same grass were eaten off by horses or store cattle, it shows that he has not given much thought to the facts of the case. He might as well say that if you sold half your manure heap to a neighbor you would still have the whole of your heap left; and I think it is very easy to prove that a milking cow grazing a grass field will rob it more than horses or store cattle would, supposing them both to be grazing under the same conditions with regard to extra food.

Let us assume that a fairly good cow at grass from May to September would give four hundred gallons of milk. In this case we have sold off the farm thirty pounds of nitrogen, five pounds of potash and seven and one half pounds of phosphoric acid. To replace this thirty pounds of nitrogen our cow would have to eat six hundred and thirty pounds of good linseed cake—rather over five pounds a day for the five months. This quantity of cake would supply us with eight and three fourths pounds of potash and twelve and one half pounds of phosphoric acid, so that our field would gain eight and three fourths pounds of mineral matter; but if the cow were carrying a calf at the same time, most of this would be absorbed, and some more cake be wanted to supply the necessary nitrogen, even if the cow laid on no flesh. It is evident, then, that to keep our grass land from deterioration by selling milk we must feed the equivalent of four pounds of linseed cake for every twenty-one pints of milk we sell.

The Case of the Store Beast

Now let us look at the case of a store beast. In this case all that the animal has taken out of the grass is put on its back, so that in selling the animal off the farm we rob the farm only of what he carries away. It is known by analysis that every one hundred pounds of the live weight of an ox contains two and three fourths pounds of nitrogen, two pounds of phosphoric acid and one fourth of a pound of potash, so that if our store beast increased in weight at the rate of two pounds a day for five months he would put on his back eight and one fourth pounds of nitrogen, six pounds of phosphoric acid and three fourths of a pound of potash. To supply eight and one fourth pounds of nitrogen, one hundred and seventy-four pounds of linseed cake, or about one and one fourth pounds a day, would be required, and this would also give us three and one half pounds of phosphoric acid and two and one half pounds of potash; so that if we gave our store beast one and one half pounds instead of one and one fourth pounds of linseed cake a day, we should be gaining fertility both in nitrogen and potash. To balance up, we find that while it takes rather over four pounds of linseed cake a day to maintain the fertility of the land in the case of the cow, it takes rather less than one and one half pounds a day to do so in the case of a store beast; so if both were being fed equally well, the store beast would enrich the land the more quickly.

With regard to the skim milk, all do not know that good, well-made butter should contain practically no nitrogen, phosphoric acid or potash, and the whole of these are left in the skim milk. This is so, however, and if only the butter had been removed from our four hundred pounds of milk, and the skim milk could have been returned to the field in some way, it would not require six hundred and thirty pounds of linseed cake to maintain its fertility.

I dare say that these facts will be called scientific nonsense, but I came to the conclusion long ago that when so-called practical experience will not stand being faced by facts, then it is not experience at all, but merely hearsay. By generous feeding of the cows, pastures grazed by dairy cattle are often improved, but that does not remove the contention that selling milk tends to impoverish the land.

W. R. Gilbert.

CARE OF THE BOAR

It is not best to permit the boar to run with the herd. There are good reasons why this should not be done. If you are to control the time of farrowing, and want to control the boar, it can be done only when he is kept by himself.

It is a too common practise to sell the boar when the season is over, rather than keep him for future purpose, depending on getting another when he is needed. This is a ruinous practise and is largely the cause of so many small litters and weak-boned pigs. From years of experience I have learned that it is best to get a good boar, and keep him for a few years. As he matures, his pigs will be stronger and more in number.

Have a small yard of grass if possible, hog tight and away from the sows, so he will not be worried. A quarter of an acre will afford plenty of exercise in the open air. When grass is not available, give him cut clover or any good green feed he will eat.

Feed sparingly of fattening foods, but supply him with food that will keep him growing if not fully developed. Mill stuff, skimmed milk, clover, alfalfa or anything that furnishes protein is advisable. And at all times keep a supply of ashes, salt and charcoal where he can obtain it at will, and it will do much toward keeping him in good health. R. B. R.

OVER, THROUGH AND UNDER

"Well, we did have a chase, didn't we? Hope they'll stay now!"

"It isn't likely they will, though!"

Father wiped the sweat from his face and spoke in a rather dubious tone of voice. They had been having a hard chase after the sheep which had broken through the fence and been feeding in the meadow where the grass was knee deep.

"What makes you think so, pa? We'll put the fence up good. Seems as though they ought to stay."

"Seems so, Laddie, doesn't it? And yet sheep are so much like the rest of us! Habits are tough things to get rid of. Fences don't amount to much when men or sheep or anything else get in the notion of running wild!"

Laddie looked a bit mystified. Father was talking of things which he did not understand very well. He looked up into father's face and sat waiting for something more.

You see, an unruly sheep is a miserably poor thing to have around. Might about as well get rid of her, first as last. You can hardly build a fence high enough, strong enough or tight enough to hold her when once she gets the habit of breaking out.

"If you should build a fence clear up to the moon, they couldn't get through it, could they, pa?"

Laddie was looking skyward. Father turned his eyes that way, too, and a shadow of a smile came over his face. He was getting rested a little now, and perhaps his patience was coming back from the vacation it had been taking for the past half-hour.

"Might be a little troublesome to get up high enough to do that now, Laddie. High fences do not seem to count for much when folks or sheep want to get out!"

Another riddle for Laddie. Again he waited. It was the best thing he could do. Then he ventured:

"How did they get in the notion of doing it—getting out, I mean?"

"The same way all of us do, a little at a time. By finding a low place in the fence, maybe where the wind had blown a rail off; jumping that until it got to be an old story and the muscles of the legs got strong enough to jump a higher place next time. It is the way it always works. The first time out is what tells the story."

"I ain't going to look for the low places, pa!"

Laddie snuggled a bit closer to father.

"That is what we all think. Dick Walter thought so!"

Laddie remembered about Dick Walter.

"Too bad!"

"Yes, too bad. He was a good boy. But he got over the fence. Now they have to make one of brick and stone and iron to hold him."

They looked over where the flock was that had caused them so much trouble. Some had gone and laid down, filled with the sweet grass of the meadow. Others were still turning an eye back at the fresh green fields, as if they would like one nip more.

"The other side of the fence, Laddie, that is what does the mischief. Dick got tired of the nice pasture he had at home. His father and mother had done all they could to make life pleasant for him. It was a good home. But the grass looked greener on the other side of the fence. Dick tried it over there. The fellows down town were so much better company! Pretty soon father was the 'old man' and mother the 'old woman.' When it gets as far as that, the road is pretty slippery. The boys had games and things to entertain Dick. That kind of entertaining is costly. Dick is finding it so. The first he knew, Dick had no appetite for anything but the meadow grass on the other side. The officers of the law chased him out. They drove him back a number of times. But the fences were not good enough. If he could not get over, he crawled under, and where he could not do that, he broke through."

"You are sorry, aren't you, pa?"

"Terribly sorry! But it doesn't pay. Now we will have to get rid of the sheep. The butcher will take them, just because they have this habit of getting out. Breaking down the fences brings sorrow. It has with Dick. He wanted to live in the meadow all the time. He did not care whose meadow it was nor how much damage he did there. He did not believe there ought to be any fences. You see how it worked. There must always be fences. The only way to have peace is to stay on the right side."

They climbed down from the top of the fence where they had been resting, fixed the gap in the fence where the sheep had broken out, and went home down the lane.

The story of the sheep stuck in the mind of Laddie like a bur in his hair. It was a good thing it did.

Edgar L. Vincent.

Live Stock and Dairy

Breeding, Growing and Training Mules

For several years past the demands for high-class mules have been constantly increasing. There is a call for good-sized mule teams from the city breweries and other heavy-trucking centers, from the Southern planters and farmers, and from rural free delivery men. The government is constantly buying mules both for home use and for the Philippines. Numerous foreign countries depend upon this country for their supply of mules. In the face of all these demands the best mule teams are finding ready buyers at from four hundred dollars to eight hundred dollars, and the supply is inadequate.

In the practical language of the mule market and farm the term "mule" means the progeny of the jack and the mare; while the term "hinny" means the reverse cross, or that of the stallion upon the jenny, or female ass.

In the procreation of the mule the quality of the jack is of supreme importance, as his influence is marked on every mule produced. Great improvement has been made in the mule since the importation of the Spanish jacks into this country. It has resulted in giving us animals that come to maturity earlier than the old stock, have more size and action, and possess more quality and finish.

Breeding for Market Purposes

In the breeding of mules for market purposes the jack should be of good size, although it is not safe to select a large jack unless he is equally good in other respects. An ideal jack is one from fourteen to fifteen hands high, with good length of body, depth of chest and with a vigorous constitution, as indicated by a good round barrel. He should have heavy, flat-boned limbs, a long, thin face and fine under jaw, ears carried upright and not too thick. His temper should be kind and sprightly and his appearance good, for these qualities are certain to be transmitted to his progeny.

He should be fed and cared for at all times with a view of maintaining the greatest physical force and vigor, so as to produce an even lot of colts, and to this end he should rarely be allowed to serve more than fifty mares during one breeding season of three months. Feed him such food as will promote strength and vigor and not produce feverishness. Natural exercise, with a run of a grass lot, should be allowed at all times. When a jack is being used for the purpose of crossing with mares he should not be allowed any intercourse with animals of his own kind, as he is quite apt to become entirely useless for crossing purposes when allowed to come in contact with animals of his own species.

For the procreation of mules I would select mares that have large, roomy bodies and short, strong limbs. They should have kind dispositions, and the more good blood they possess, the better, if the form and strength have been preserved.

If I were going to make a specialty of the business I would take my time and select my breeding mares from some city dealers where I could find well-bred, able-bodied mares that were disqualified for city uses on account of being footsore or blemished. There are many excellent mares in the large cities that can be bought for very low prices, and these mares will go out to a farm or ranch and raise a number of fine mules before their days of usefulness are over. Some scientific breeders may claim that I am giving my readers poor advice, but I am speaking from the practical and money-making side of the question, and I know of a number of the best mule breeders in the country who are making a practise of doing just what I am advocating. We cannot afford to use the very best mares for breeding purposes when we can sell them for from two hundred dollars to three hundred dollars each.

During the breeding season a horse should be used as a teaser to determine if the mare is in season. Some mares will not allow a jack to serve them unless they have been teased by a horse. It also saves the jack much excitement in overcoming the antipathy that some mares have at the very sight of him.

When breeding mules for market, the mares should be bred so that they will drop their colts early in the spring. By having the colts come at this time they will be well started when winter sets in, and if they are all weaned at the same time they will go into feeding yards in condition to make a better growth. They should not be yarded until after the flies have gone, or they will suffer great annoyance, and perhaps injury.

Mules are timid animals, possessing a great amount of curiosity in their compositions. They are affectionate, but possess a peculiar habit, unusual in most domestic animals, that of resenting an injury, and on account of this peculiarity they are thought by many to be ugly and stubborn. A study of their disposition and a good, sensible line of treatment from the beginning will overcome these evil propensities. It is much easier to take a mule colt and train it than it is to take an older mule that has been misused and overcome any bad habits or tricks arising from years of abuse and poor management.

Care at Weaning Time

When the colts are collected at weaning time it is best to place them in a tight yard where there is no chance of escape, and keep them there until they have forgotten their dams. When we do this we take the first step toward preventing them from becoming breachy and unruly. At all times while in the feed lots move among the colts in a quiet manner and with no manifestations of fear, and after a few days they will do their part toward becoming good friends with you.

If during the first summer any of the colts have become breachy or learned unruly tricks, care must be exercised to avoid harm from them, and before many months, if they have good associations,



IMPORTED SPANISH JACK

WORKING DAY AND NIGHT
MANUFACTURING
DE LAVAL
CREAM
SEPARATORS

That's what the De Laval shops have been doing since early in February, from seven o'clock in the morning until nine o'clock at night, with every available man, and new tools being added every week; while the material supplying shops have been running double force all day and all night.

That's the record of the De Laval shops in the effort to meet the doubled demand from every section for the new Improved 1908 DE LAVAL machines.

That's the showing which stands out alone and by itself, against every shop and every industry in America for 1908.

There's certainly a very good reason for it, and if you need a separator—either the first one or a good one in place of a poor one—it's up to you to find it.

The improved machine itself tells the story best—a catalogue to be had for the asking is the next best thing.

THE DE LAVAL SEPARATOR CO.

42 E. Madison Street CHICAGO
1213 and 1215 Filbert Street PHILADELPHIA
Drumm and Sacramento Sts. SAN FRANCISCO

General Offices: 165-167 BROADWAY, NEW YORK.

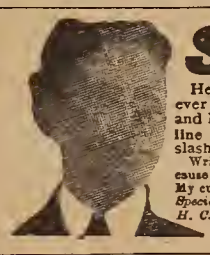
173-177 William Street MONTREAL
14 and 16 Princess Street WINNIPEG
107 First Street PORTLAND, OREG.

60 OLD TIME SONGS WITHOUT COST
WORDS AND MUSIC

This magnificent collection of the songs our mothers sang, is durably bound in a scarlet and black cover. New, freshly engraved music plates, and new type set verses, all printed on good quality book paper. These songs will endure for ages, and no home is complete without them. Here are the sixty songs in the collection.

America	Flow Gently, Sweet Afton	Last Night	Rocked in Cradle of the Deep
Annie Lanrie	Forty-Nine Bottles	Last Rose of Summer	Rule, Britannia
Auld Lang Syne	Girl I Left Behind Me	Love At Home	Russian Hymn
Austrian National Hymn	Good Night Ladies	Maggie by My Side	Scots Wha Hae
Battle Hymn of Republic	Harp That Once Thro'	Maryland, My Maryland	See the Conquering Hero
Blue Alsatian Mountains	Her Bright Smile	Massa's in De Cold Ground	Soldier's Farewell
Bonnie Doon	Highland Mary	Minstrel Boy	Stars of the Summer Night
Bonnie Dundee	Holland's National Hymn	My Bonnie	Swanee River
Brave Old Oak	Home, Sweet Home	Nelly of the Hazel Dell	Sword of Bunker Hill
Coming Thro' the Rye	I Cannot Sing the Old Songs	Oft in the Stilly Night	Take Back the Heart
Dear Evelina	In the Gloaming	Old Cabin Home	Then You'll Remember Me
Die Wacht Am Rhein	Jingle Bells	Old Folks at Home	Warrior Bold
Dixie Land	John Brown's Body	Old Kentucky Home	When the Swallows
Do They Miss Me At Home	Juanita	Old Oaken Bucket	Woodman, Spare That Tree
Douglas, Tender and True	Killarney	Robin Adair	Yankee Doodle

We want to get 50,000 new friends for our great weekly story paper the Chicago Ledger. This paper has over a million readers a week. It is printed in beautiful colors and it is full of most fascinating reading. When it once gets into a home the folks want to subscribe for it right along. We have many subscribers who have read the Ledger over 25 years. We want it to be a friend in your home and to get started we will send the Song Collection described above, without cost to every one who sends in 25 cents in stamps for thirteen weeks' subscription. Everybody in the country knows the Chicago Ledger and what a great weekly it is. When a big publishing house makes such a liberal offer as this you may be sure you get big value for your subscription and the fine present of the 60 old time songs will keep us in your mind. Send in your 25 cent subscriptions to the Ledger today. The song collection and the first copy of the Ledger will be sent to you at once. Address CHICAGO LEDGER, 77 DEARBORN AVE., CHICAGO, ILL.



SENSATIONAL PRICE CUT
On Famous Split Hickory Vehicles

Here's the greatest Price Cutting Special Offer ever made in the history of high grade Carriage and Harness Making—no job lot—strictly the full line shown in my big Free 1908 Catalog. Price slashed to the rock bottom. ACT AT ONCE.—Write me and save the most money ever possible, because materials are so low. I'll give you all the benefit. My cuts in prices will astonish you. Write me for these *Special Cut Prices* and my big Free Catalog *now*.

H. C. Phelps, Pres., OHIO CARRIAGE MFG. CO. Station 23 Columbus, Ohio.



30 Days' Free Trial, 2 Years' Guarantee



Limited Summer Offer

If you will send us only 10 cents for a subscription to FARM AND FIRESIDE from now until next December—ten numbers—for one of your friends or neighbors, we will send you by return mail, absolutely without cost, a fine mezzotone reproduction of President Roosevelt, composed of 499 different pictures, 13½ x 20½ inches.

You can get almost any one to give 10 cents for ten numbers of FARM AND FIRESIDE.

This offer is open to you for the renewal of your own subscription as well.

We cannot guarantee to furnish the Roosevelt picture after July 15th, as the supply is limited.

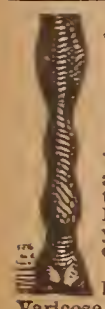
FARM AND FIRESIDE, Springfield, Ohio

It is to your advantage to mention Farm and Fireside in writing to advertisers. Farm and Fireside folks get the very best attention.

DON'T BUY GASOLINE ENGINES UNTIL YOU INVESTIGATE "THE MASTER WORKMAN," a two-cylinder gasoline, kerosene or alcohol engine, superior to any one-cylinder engine; revolutionizing power. Its weight and bulk are half that of single cylinder engines, with greater durability. Costs Less to Buy—Less to Run. Quickly, easily started. Vibration practically overcome. Cheaply mounted on any wagon. It is a combination portable, stationary or traction engine. SEND FOR CATALOGUE. THE TEMPLE PUMP CO., Mfrs., Meagher and 15th Sts., Chicago. THIS IS OUR FIFTY-FIFTH YEAR.

FOR THIS

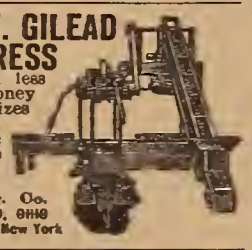

—NEW LOW DOWN—
AMERICAN CREAM SEPARATOR
Guaranteed to skim closer than any separator in the world. Sold direct from the factory. We are the oldest exclusive manufacturers of hand separators in America. You save all agents', dealers' and even mail order house profits. We have the most liberal 30 DAYS' TRIAL, freight prepaid offer. Write for it today. Our new low down, waist high separator is the finest, highest quality machine on the market; no other separator compares with it in close skimming, ease of cleaning, easy running, simplicity, strength or quality. Our own (the manufacturer's) guarantee protects you on every AMERICAN machine. We can ship immediately. Write for our great offer and handsome free catalogue on our new waist high model. Address,
Box 1058,
AMERICAN SEPARATOR CO., BAINBRIDGE, N. Y.


AN INFLAMED TENDON
NEEDS COOLING.
ABSORBINE
Will do it and restore the circulation, assist nature to repair strained, ruptured ligaments more successfully than Firing. No blister, no hair gone, and you can use the horse. $2.00 per bottle, delivered. Book 2-C Free.
ABSORBINE, JR., for mankind, $1.00 bottle. Cures Strained Torn Ligaments, Varicose Veins, Varicocele, Hydrocele, enlarged Glands and Ulcers. Allays pain quickly
W. F. Young, P. D. F., 23 Monmouth St., Springfield, Mass

Shoo-Fly THE ANIMALS' FRIEND
Kills every fly it strikes. Keeps all insect pests off cows in pasture longer than any imitation. Absolutely harmless. Cures all sores. Used by same dairymen since 1885. Kills lice and mites. If dealer offers substitute, send us $1 for Improved 3-tube Sprayer and enough SHOO-FLY to protect 200 cows. Name express office. $1 returned if cows not protected. Free booklet
Shoo-Fly Mfg. Co., 1316 N. 10th St., Phila., Pa.
Farm and Fireside guarantees Shoo-Fly to be O. K.


Take Off Your Hat to the MYERS
The only Glass Valve Pump—never sticks—never fails—always ready. Also HAY TOOLS, Barn Door Hangers, Hay Rack Clamps. Write today for Circulars and Prices.
F. E. Myers & Bro., 23 Orange St., Ashland, O.
THE PUMP THAT PUMPS

NORTH TELEPHONES specially adapted to farm lines. Sold direct from factory. Book of instructions how to organize farmers and build line free. Write for Bulletin No. 304. The North Electric Co., Cleveland, O. Kansas City, Mo. Dallas, Tex.
FOR FARM LINES


THE ORIGINAL MT. GILEAD HYDRAULIC PRESS
produces more cider from less apples, and is a bigger money maker than any other press. Sizes from 25 to 400 barrels daily. Steam Evaporators, Apple Butter Cookers, Gasoline Engines, etc. Catalog free.
MADE ONLY BY
The Hydraulic Press Mfg. Co.
DEPT. 6 MT. GILEAD, OHIO
or Room 1240 29 Cortlandt St., New York


Information About Minnesota
200 page book compiled by the State, describing industries, crops, live-stock, property values, schools, churches and towns of each County, and Minnesota's splendid opportunities for any man. Sent free by State Board of Immigration, Dept. S, State Capitol, St. Paul, Minn.

Monarch Hydraulic Cider Press

Great strength and capacity; all sizes; also gasoline engines, steam engines, sawmills, threshers. Catalog free.
Monarch Machinery Co., 603 Cortlandt Bldg., New York

The CLIPPER

There are three things that destroy your lawns, Dandelions, Buck Plantain and Crab Grass. In one season the Clipper will drive them all out.
Clipper Lawn Mower Co.,
Dixon, Ill.

Daggett Calf Weaner
guaranteed to wean or money back.
CALF WEANER CO., Shenandoah, Iowa

DEATH TO HEAVES Guaranteed

NEWTON'S Heave, Cough, Distemper and Indigestion Cure. A veterinary Remedy for wind, throat and stomach troubles. Strong recommends. $1.00 per can, of dealers, or exp. prepaid.
The Newton Remedy Co.
Toledo, Ohio.

LAND DRAIN TILE
Wm. T. Leggett Co., Pittsburg, Pa.

It is to your advantage to mention Farm and Fireside in writing to advertisers. Farm and Fireside folks get the very best attention.

Live Stock and Dairy

the tricks will be forgotten. When mule colts are placed together they will form mutual attachments that will last until they are taken away. Feeders succeed best when the colts are gathered together about the first of October. If they are confined in small yards when first collected they should have some form of succulent food for a few days, until they become accustomed to the change from grass to hay and grain. It is best that we make no sudden changes in their line of feeding, as there is danger of digestive derangements.

They should have good pasture, and if grain is fed once a day it will be of great assistance in hurrying along early maturity. Corn, oats and mill feed are all good grain foods for growing mules. They must have an abundance of pure water if they make good gains and keep in good health, for although the mule is capable of enduring greater irregularities of feeding and vicissitudes of the weather than the horse, still success in feeding depends upon having food and water accessible to the stock. When these arrangements are properly provided the mule is a light feeder, but like the sheep, is very clean and wants a variety, so that he may partake of it to suit his fancy.

Some of the most successful mule feeders in the Southwest prefer a wood lot as a place for wintering mules, especially if the soil is dry and the lot well protected from the winds. When fed outside, the colts are less liable to colds and distemper than when confined in a warm stable. They should have some form of roots or succulent food to prevent constipation, for this complaint often brings on colds and other complaints which young mules are subject to during the first winter. Salt should be placed where the mules will have access to it at all times, and when given in this way they will take just what they want and no more. When stabled, provide good, dry bedding and take care of the feet, which by a little care may be made to grow straight and perfect.

Castration is done by many breeders during the first summer, while the colt is still with the dam, but is more commonly postponed until the colts are about a year old and are turned out to pasture. It is done the same as with the horse, and should be performed before the flies are troublesome.

Summer Management

The summer care of the mule consists of regular salting and an occasional looking after the hoofs. A month of grass during May will purify the system of all humors that may have arisen from colds and distempers or from feeding of too much grain during the winter, and after a month on grass alone it will often be found best to feed some grain once a day in connection with pasture. In mule growing, the same as in any other line of live-stock growing, all that can be gained is saved in the amount of food required to reach a certain state of maturity, and besides, the losses during fly time will often be severe if grain is not fed once a day. A uniform growth is desirable, and we should feed at all times with a view of obtaining that growth.

When possible, it will be found a good plan to practise a soiling system and confine them on a few acres, for they will make a better growth and will be less liable to injuries than when running in pastures. If grain and mill feed are not fed, it will be difficult to get them to eat enough forage to make a good growth and keep in condition for early maturity. The second winter the same line of care should be followed, except that corn may be fed to get them in good condition for market so that they will bring the most money.

Upon the farms, especially in the South and West, mules are well liked by all those who give them a fair trial. They are well adapted to many kinds of farm machinery, where an even, steady draft is essential, and in cultivating small truck and marking out land a mule will tread on fewer plants and walk in a straighter line than the more noble animal which is usually assigned to such work.

We must allow, on behalf of the mule, that he is the more intelligent and affectionate creature and that his powers of endurance and his adaptation to a warm climate have shown him superior to the horse.

In breaking mules for use on the farm it is best to begin by using them for light work during their third year. In this way they will have a quicker step than when allowed to attain full maturity and then put at once into heavy work.

The first thing for a man to learn before he attempts to train mules is to hold his own temper, and the sooner the old-time methods of mule breaking are abolished, the better. The mule that is to be trained should be led into a stall or tight yard where he cannot escape, and in a short time he will stop struggling. Gentle words and a firm hand will soon give him confidence in you, and he will allow the harness to be put on him.

When hitched with a horse or other mule he will have confidence in them and take up with the program very rapidly. When the mule is hitched to a wagon the trainer should be very careful to not overdo the matter the first time, or the mule will become discouraged. By the right kind of treatment mules may be made the most docile of any of our domestic animals, and will show intelligence superior to that of the horse.

W. Milton Kelly.

◈

NOTES ON THE SHEEPFOLD

As a rule, the care that sheep require when rightly managed is demanded at seasons when other work does not press, and at all times the labor of attending them is easy.

To make mutton the cheapest to both producer and consumer the sheep must be of mutton breeding. They must have behind them the heredity that fixes the flavor, the texture and the proportion of edible meat.

It will be noticed that the most profitable sheep are those that keep their heads close to their business of eating. They are not always looking around for trouble, but are making the best use of their time, whether at the trough and rack or in the pasture field.

Regularity in the time of feeding of sheep is a matter of prime importance during pregnancy. It is not possible to compute the deleterious effect of irregularity in the time of feeding upon ewes carrying their unborn progeny, but it is very apparent to those who have given the matter close study that many of the antagonistic influences encountered at parturition have their origin in this source.

The best way to feed grain to lambs is to make a "creep" for them. This is a pen in the pasture, with an opening on each side, through which the lambs can creep, but small enough to keep the ewes out. If such a pen is made of slats set upright, the slats may be far enough apart so the lambs can creep through anywhere at pleasure. This pen, or creep, should have in it a trough in which grain should be kept all the time, and should be covered so as to protect the grain from rains.

This is the season when sheep, with the exception of the lambing season, are threatened with more dangers than at any other time. They require special attention all during the hot months, and negligence at this time may cause heavy losses. One of the most serious troubles in hot weather is the attacks of flies. Young lambs are often killed by these pests. The insects working day and night apparently will very often actually destroy a lamb before the flockmaster is aware of it. Sometimes fly-blown sheep that are neglected lie in misery for days while they are actually eaten up. Every animal in the flock ought to pass under the master's eyes at least once every day in summer, and he should frequently give them a close examination, in order to prevent serious injury from this cause and others.

When building barns or sheds for sheep for winter some farmers may be puzzled to know just how large they should be to give ample quarters for a specific number of sheep. Hence it may be timely to name the number of feet required by the average one-hundred-and-fifty-pound ewe in the barn and at the trough. If the sheep are confined in the barn all or most of the time, nine or ten square feet of floor space should be allowed for each one. If, however, they have access to a yard, the indoor space may safely be cut one half. If sheep are of medium size, eighteen inches of trough should be allowed for each one, but if large, twenty to twenty-four inches will be necessary. Usually a trough or rack built around the pen furnishes plenty of trough room for the sheep enclosed. Where self-feeding is practised, less trough room will be needed, as all of them will not be eating at the same time. Almost no limitation need be placed on the yard room, and there is little danger of getting it too large.

Many farmers seem to think that the expense of fencing precludes all the profits on sheep. As a matter of fact, every improved farm should gradually become fenced, so as to permit hogs and sheep to be pastured in any field. If a weed pest gets into the field it is then easy to destroy it. One cannot fence every field in a one-hundred-and-sixty-acre farm at the start with hog and sheep fence unless he is on easy street, but it is not difficult to fence a five or ten acre lot from time to time. Sheep improve the land by destroying noxious weeds. They also furnish the richest kind of fertilizer. They are not hard animals to keep during the winter. All that is necessary is a clean, dry shed. They can stand moisture. They are not difficult to keep free from disease if clean and sanitary quarters are provided for them. They can be profitably pastured on land that would not provide feed for any other kind of stock. Just now sheep represent good money in wool and mutton. Both are bringing top prices. The lambs are ready for market at an early date, and with very little care. Sheep increase rapidly, and all around are an exceptionally valuable farm asset.

Wm. H. Underwood.

◈

HALF-BLOOD MALES

Possibly there is no practise that does more to discourage the breeder of good stock than the keeping of half-blood males for breeding purposes. This practise is an injury to the live-stock business generally, since a half-blood animal is often a good individual animal for all the purposes for which such animals are kept, except for breeding purposes.

The farmer may be deceived by the good looks of the animal and led to hope for good results from breeding to half bloods. This hope is seldom, if ever, realized, since the tendency is rather toward inheriting weak points rather than the good points. The tendency is always toward reverting back to the scrub.

When half bloods are used the service fee is necessarily lower than owners of full-blood animals can afford. There are many farmers that patronize the inferior animal on this account, and in some sections it is impossible for owners of pure-blood animals to get sufficient patronage to pay expenses. In this county some farmers have invested in pure-bred Percheron horses. They charge a fifteen-dollar service fee, which appears to me to be a reasonable one.

There are some men getting close after them with half-blood Percheron stallions with the inducement of a reduced service fee which ranges from seven dollars to ten dollars each.

I remember an experience in the sheep business years ago. When the Southdown sheep was first introduced here many farmers used half-blood rams, with the result that the lambs from these half bloods were but little, if any, better than the regular scrub sheep. The safest and cheapest plan in the end is to always patronize the full-blood breeder.

A. J. Legg.


SHEEP AND BUILDINGS ON A NEW YORK FARM

Poultry Raising

MAKING THE FLOCK BETTER

That is what we all want to do, make our flocks better. The question is how to do it. One way is to get eggs that are from some reliable keeper of well-bred stock and raise one's own superior hens. The time for that, however, has gone by for this season. It is now too late to hatch chicks with any expectation that they will be a source of revenue next winter.

Another way is to sell off those that are not doing good work, and those that are getting so old that they may soon fail. It does not take a man or woman who keeps the eyes open long to find out which hens are not doing a profitable business. Trap nests are good, but not absolutely essential to this end. When it has been decided that a hen is running behind—that is, that she does not pay for her keeping—better let her go as soon as possible.

Weeding out the hens that are getting along in years is a more difficult matter. Some of these hens are laying pretty well now. We do not know how long they will keep that up, but often we are led to say, "These hens are doing well; I believe I will keep them another year." But that may be a costly year for you. It is, in fact, the best possible rule to let every hen go that has gotten to be two or three years old. That is safe, for who can tell when a hen may begin to fail?

Having weeded these hens out, if you have pullets coming on, keep them to take the place of those sold; if not, perhaps you can buy some of a neighbor who has a surplus, providing his stock be good. Always work for the best thing. Be satisfied with nothing less. E. L. Vincent.

◈

TREES IN THE POULTRY YARD

No shed or building of any kind will furnish a shade as cool for poultry as that to be found under a thick mat of leaves on a thrifty tree. A poultry yard is the best place to plant trees, because the soil becomes more fertile the longer it is used for a poultry yard, and trees set in such soil grow rapidly and thriftily.

Pear, plum, cherry and crab-apple trees are especially suited for poultry yards, and when planted in such a place they



LYRIAN FARM HOME. NOTE THE FLOCK OF WHITE WYANDOTTES

generally yield abundantly, because the soil is rich and the fowls are ever ready to pick up the insects as fast as they come within their reach, which is no small item for the fruit grower.

Hens always do better in the hot season where there are trees in the yard, and especially during the molting period they must have protection, so the trees are a benefit in two ways.

The cost of good, fair-sized fruit trees is a small item; the work of setting them out, and their care afterward, is of little consideration. V. M. Couch.

◈

CHICKENS AND GARDEN

It is an old saying that "chickens and garden do not 'go' together," and taken as meant, nothing is more obviously true. But the two may exist and thrive simultaneously on the same premises to good advantage. He who owns a small piece of ground or has one under his direct supervision may obtain from the garden a large percentage of support for a lot of hens upon what would otherwise be waste. As to the construction and hygienic arrangement of a small poultry yard, I refer you to articles which appear from time to time in these columns.

The logic of economy is, or should be, an absorbing theme for each member of the average family, and is always recognized as an item of the basis of thrift. There are many edible portions of garden "off falls" that are real relishes for fowls, but they are usually consigned to the dump.

Onions intended to mature dry bulbs for winter are improved in size and tissue by occasionally clipping the freshly fallen tops or blades. There is no finer luncheon for fowls than these.

The juicy young plants drawn from rows of radish, cabbage, lettuce, spinach and corn at thinning time are good appetizers. The simplest change in diet or addition to the customary rations quickly shows a remarkable increase of egg production. Stalks of cabbage shorn of their heads, and of corn "in joint," accidentally or otherwise broken off, should be collected and carried to the poultry pen while fresh. Poorly filled roasting ears rejected from table use are splendid raw feed for the chickens.

Nubbins of sugar corn permitted to ripen make a most excellent winter food. It is interesting to watch the hens select the grains of sugar corn from among the grains of field corn fed at the same time. The fodder—save every blade of it! The chickens will eat it all, and it is very beneficial when fed along with the more concentrated foods in winter.

Drop sunflower seeds in the missing hills of early corn and potatoes, etc., and harvest in the autumn for feeding purposes at molting time. The small potatoes rejected in the patch at digging time measure up astonishingly, and when cooked make a staple ingredient for the bran mash on cold mornings. Turnips, like potatoes, are not only nutritious, but help to counteract the ill effects of too much grain, and should be treated like potatoes for the warm mash. After digging time, a little corner of the early potato patch will raise enough turnips for both family and chickens.

When your fowls seem cloy or indifferent to their feed, make up a menu from the garden, and observe how quickly new life seizes upon the whole flock.

Have a care. May you not be as economical as the millionaire pork packer who boasts that "nothing is lost of the pig except the 'squeal?'" Economy is the keynote of success in business. Economy to a fault is better than penury. A few hens, however, will not make you rich, but if you have chickens, and also a garden, remember that it is possible for you to save many an order for feed, and supplant it with articles better than any compound sacked up and offered to you on the market at a fabulous price. L. C. Seal.

REPAIRING THE LOSS

"Farmer's wife," an Indiana lady, writes me that she has lost nearly all this year's crop of chickens in a flood of rain they had a short time ago, and she wants to know the best way of repairing the damage.

I would suggest that she proceed at once to set all the hens she has as fast as they become broody, and get out not less than a hundred chickens—three hundred will be better. Give these chicks the best of care, and after they are ten days old see that they have all the food they can eat all the time, and that they are protected from storms, cats, hawks, and especially from lice and mites. In short, keep them growing right along without a check, and as cold weather comes on, see that they are not exposed to chilly rains and the early snows. Be sure they have an abundance of good food all the time, and also water and shell or grit.

By Christmas they should be rattling good birds, robust, well feathered, well developed and filling out in good shape. By the middle of January or the first of February they should be laying right along. It is not at all difficult to repair a loss like this if it occurs before the middle of July. Fred Grundy.

◈

SELECTING A VARIETY

Pure breds are desirable, as with these one has a flock of fowls which will produce carcass and eggs of a more uniform shape, color and size than mongrels will produce, all of which will aid in finding a ready sale.

If you already have a flock of mongrels, and cannot afford to buy pure breds, you should choose a pure-bred male bird of the breed preferred, and mate him with a few of the best mongrel females. This system if carefully followed for a few years will give a flock of high-grade fowls that will be practically as good as pure breds, so far as market conditions for dressed fowls and eggs are concerned.

Choice of a variety will depend largely on the purpose for which the fowls are kept, whether eggs alone, both eggs and meat or meat alone is the chief object, and whether sitters or non-sitters are wanted.

Egg Breeds: Leghorns and Minorcas, also non-sitters.

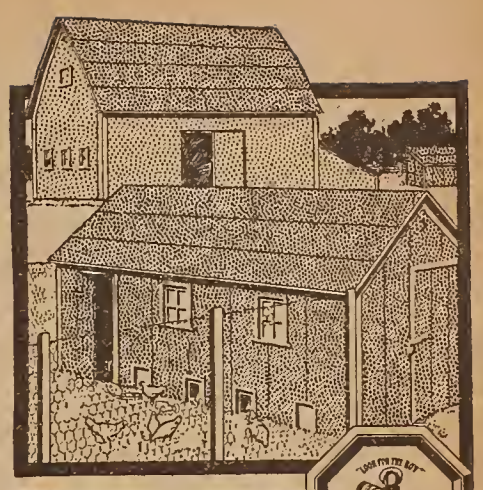
General-Purpose Breeds: Wyandottes, Plymouth Rocks, Orpingtons and Rhode Island Reds; they are good sitters and mothers.

Meat Breeds: Brahmas, Cochins and Langshans; they are also sitters.

There are other breeds, however, but these are the ones generally used by the farmers. R. B. Rushing.

◈

Maury County, Tennessee, is known as one of the best poultry and egg counties in the state. The shipping price a dozen the past winter ranged from fifteen and a half to seventeen and a half cents. *



Dry, Tight Poultry Houses

Dampness and draughts are deadly to chickens. A dry atmosphere and an even temperature are absolutely essential to health and productiveness in poultry. Poultry houses roofed and sided with

REX FLINTKOTE ROOFING

have protection not only against wind and rain, but also against extremes of temperature, dampness and humidity.

REX Roofing is a non-conductor of heat and cold as well as being storm-proof and wind-tight.

REX Roofing has great durability because it is made of dense, long-fibre wool felt, thoroughly impregnated with weather-resisting compounds. Any farm hand can put it on.

"Look for the Boy" on every roll and don't buy unless he's there.

OUR FREE SAMPLES AND BOOKLET

will convince you on every point of roofing excellence. Sent for the asking.

Send 4c. for our poultry booklet, "Making Poultry Pay," which tells how to make your fowls profitable.

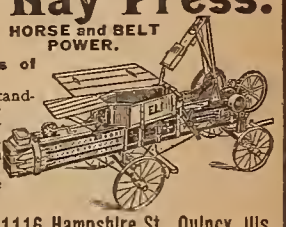
J. A. & W. BIRD & CO.
75 India St., Boston, Mass.
Agents everywhere.

"Eli" Hay Press.
HORSE and BELT POWER.

38 styles and sizes of Presses.

For many years the standard. Lead in character of work, speed, easy and safe operating.

Don't buy until you see the Eli catalogue. Mailed free. Write for it today.



COLLINS PLOW CO., 1116 Hampshire St., Quincy, Ills.

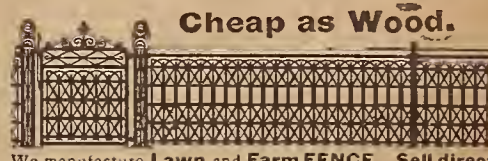
ANCHOR FENCE
CATALOG FREE

Write at once for our new, money-saving plan, tells how to buy the best farm and ornamental fence at the lowest possible price, saving all jobber's and dealer's profits. We are saving thousands of dollars to fence buyers every year. Special agents' proposition. Write—

Anchor Fence & Mfg. Co.
Sta. D, Cleveland, Ohio



Cheap as Wood.



We manufacture **Lawn** and **Farm FENCE. Sell direct** shipping to users only, at **manufacturers' prices.** No agents. **Our catalog is Free. Write for it to-day.**
UP-TO-DATE MFG. CO., 971 10th St., Terre Haute, Ind.

ORNAMENTAL WIRE AND STEEL FENCE



Cheaper than wood, combining strength and art. For lawns, churches, cemeteries Send for FREE CATALOG. Address **The Ward Fence Co.** Box 725 Decatur, Ind



Saw Mills

If you need anything in saw mills or wood working machinery, send for our catalog. Our line is complete. Goods highest quality and prices reasonable. **American Saw Mill Mach. Co.,** 130 Hope St., Hackettstown, N. J. New York Office, 1576 Fulton Building.

PATENTS that PROTECT

Our 3 books for inventors mailed on receipt of 6 cts. stamps. R. S. & A. B. LACEY, Rooms 28-38 Pacific Bldg. Established 1869. Washington, D. C.

PATENTS SECURED OR FEE RETURNED.

Free report as to patentability. Illustrated Guide Book, and List of Inventions Wanted, sent free.
EVANS WILKENS & CO., WASHINGTON, D. C.

It is to your advantage to mention Farm and Fireside in writing to advertisers. Farm and Fireside folks get the very best attention.

SUBSCRIPTION PRICE

One Year (24 numbers) 25 cents
Five Years (120 numbers) $1.00

Entered at the Post Office at Springfield, Ohio, as Second-Class Mail Matter.

Subscriptions and all editorial letters should be sent to the offices at Springfield, Ohio, and letters for the Editor should be marked "Editor."

The date on the address label shows the time to which each subscriber has paid.

Subscribers receive this paper twice a month, which is twice as often as most other National farm journals are issued.

Silver, when sent through the mails, should be carefully wrapped in cloth or strong paper, so as not to wear a hole through the envelope.

When renewing your subscription, do not fail to say it is a **renewal.** If all our subscribers will do this a great deal of trouble will be avoided.



PUBLISHED BY
THE CROWELL PUBLISHING COMPANY
SPRINGFIELD, OHIO
Branch Offices: 11 East 24th St., New York City.
Tribune Building, Chicago, Ill.

ABOUT ADVERTISING

FARM AND FIRESIDE does not print advertisements generally known as "readers" in its editorial or news columns.

Mention FARM AND FIRESIDE when you write to our advertisers, and we guarantee you fair and square treatment.

Of course we do not undertake to adjust petty differences between subscribers and honest advertisers, but if any advertiser should defraud a subscriber, we stand ready to make good the loss incurred, provided we are notified within thirty days after the transaction.

FARM AND FIRESIDE is published on the 10th and 25th of each month. Copy for advertisements should be received twenty-five days in advance of publication date. $2.00 per agate line for both editions; $1.00 per agate line for the eastern or western edition singly. Eight words to the line, fourteen lines to the inch. Width of columns 2¼ inches, length of columns two hundred lines. 5% discount for cash with order. Three lines is smallest space accepted.

Letters regarding advertising should be sent to the New York address.

WE GIVE you in this issue an article on "The Father of American Forestry." This is of especial interest, since it was prepared by Prof. William R. Lazenby, who has made the study of horticulture and forestry his life work, and is now Professor of Forestry in the Agricultural College of the Ohio State University.

◈

The seeds of some weeds retain their vitality for twenty-five years or more, and not all of one year's seed grows in any one year. This explains why it is so hard to eradicate some of the weed pests. From a careful study of the habits of any weed a plan may be formulated for fighting it to the greatest advantage, and continued effort will result in its extermination.

◈

Farming is gradually becoming a more reliable occupation. Step by step the uncertainties and risks that have harassed the farmer are being mastered. Any method or practise that you can adopt that will render your crops less subject to weather conditions and to insect or weed pests will well repay you for your trouble in the pleasure you get from seeing an abundant harvest as well as increased money returns.

◈

Experiments have recently been carried on to ascertain whether it is profitable to feed grain to dairy cows while on good pasture. The results lead to the conclusion that unless the price of dairy products is especially high, the practise is unprofitable, for while more milk is obtained when receiving the grain ration, the increased production usually costs more than it can be sold for. The cattle, however, can be kept in better flesh if they receive some grain feed.

◈

As a result of many years of experimentation, the Bureau of Animal Industry of the United States Department of Agriculture has developed a method of treatment which is effective in saving a high percentage of hogs in herds affected with cholera. It is the plan of the bureau to reach the hog raisers of each state through their own state experiment stations, and it recently held a conference with the representatives of the experiment stations to instruct them in the actual operation of producing the serum to be used and in applying the treatment.

◈

Success on the farm comes largely to the man who makes carefully-thought-out plans and has the energy to carry them out at the proper time. Much extra labor and many crop failures are the result of no plans at all, or of plans that were too elaborate to carry to completion. The good farmer lays out his work for the year so that he can carry through to success the main features of his plan without at any season being crowded with work beyond the capacity of his equipment. Raising a variety of crops that need attention at different periods of the growing season and introducing live-stock raising have helped many farmers to solve this problem.

◈

The Sixtieth Congress will take its place in history as one that did about as little as possible for the benefit of the people. An aldricharchy that will never be canonized zealously guarded the citadel of predatory wealth, and stubbornly resisted attempts to legislate for the common welfare.

It passed an emergency currency law, but what a miserable measure it is. Forced to act on currency reform, Congress began early in the session with the Aldrich makeshift, and after much sham scrapping, wound up its inglorious career by passing the Aldrich mongrel makeshift, and sticking it up as a scarecrow to keep away panics.

This Aldrich currency law contains very little for the possible benefit of the legitimate banking and business interests of the country, but very much for the same speculative banking and Wall Street gambling interests that caused the panic last year. Now, whenever they find it to their advantage to do so, they will bring about another panic and money stringency in order to put Aldrich's mongrel makeshift into effect.

Intelligence in Labor

IN THE last part of the eighteenth century John Opie, the great artist, was on his first visit to London. He had been presented to the king, and the aristocracy of the city was at his feet. It was regarded as bordering upon the miraculous that this son of a Cornwall farmer should get such wonderful results from the same paints with which other men daubed. He had never attended art school, nor had he even finished at common school.

Finally one of the old dowagers who was assisting in his lionization could not bear the suspense any longer.

"My dear Mr. Opie," she said, "*do* tell me what you mix your colors with to produce such exquisite effects."

The great man eyed her narrowly, and then decided to let her have the truth flat in the face.

"What do I mix my colors with? Brains, madam, brains."

This remark, which may be applied to agriculture as well as to art, has lived, and will continue to live, because in a few blunt words it tells the whole story of intellect as applied to work.

The native of India sows seed in the same earth that is planted by the American farmer, but he starves to death in the fall because he does not sow with his brain. A bullock and a wooden plow are good enough for him, as they were good enough for his ancestors thousands of years ago. And if some kind friend were to send him a thrashing machine he wouldn't know what to do with it.

The American farmer, more than any other soil tiller in the world, farms with his brain. In a short half-century he has learned more about scientific farming than had been discovered by all the farmers who came before him.

Yet he has only skimmed the surface of his brain. Deep down in this wonderful organ that no man understands are forces that will some day snatch the nitrogen out of the air, put it in the soil, and make the earth bloom so abundantly that its present appearance will seem, in comparison, like that of a barren desert.

◈

Responsibility of Opinions

DANIEL WEBSTER was once sitting on the small of his back in his seat in the senate chamber. An opponent was grilling him. Daniel didn't care. When his adversary had finished, Webster slowly arose.

"Mr. President," he said, addressing the presiding officer, "my only criticism of the gentleman's statement is that whatever it contains that is new isn't true, and whatever truth it contains isn't new."

Moreover, in his subsequent remarks Mr. Webster proved his case. A just Providence, however, a few years later permitted his adversary to listen to a speech in which Daniel declared that the steam railroad, which was then being agitated, could never be a success. Mr. Webster was willing to concede that a locomotive attached to a string of cars could jog along at a good gait, but he said the trouble would be to stop. The locomotive and cars would run off the track at the end of the line, kill everybody on board and wreck things generally.

Here was at least one instance where Mr. Webster himself failed to recognize an idea as being both new and true. Bear the incident in mind and learn its lesson. Many perplexing problems confront the nation. There are enough farmers to settle these problems through their representatives in any way they like. And with this great power goes a corresponding responsibility—the responsibility of knowing the *rights of a thing*. Webster's mistake about the railroad did no great harm, because the railroad came anyway; *but it might have,* especially if a large enough number of influential men had agreed with him. *Get to the bottom of things.*

In the Back Office

Some of the readers of FARM AND FIRESIDE do not realize how much happiness our various pony contests of the last two years have brought the boys and girls. No subscription plan that we have ever adopted has been so satisfactory to all concerned and has brought such joyful happiness to hundreds of our young friends. If you are a boy or girl and long for a pretty pony all your own, or if you are a "grown-up" and remember how you would have "given anything" for a Shetland pony when you were a youngster, you can easily realize the great happiness that has been brought about by the fourteen ponies, three pianos and many other beautiful prizes that have been awarded to our pony contestants lately.

It is a source of great happiness and satisfaction for the Pony Man to receive such ardent, joyful letters from his young friends, as the following few will illustrate. He makes it a special point to do all he can to help our boys and girls—or "his" boys and girls, as he calls them—in every way possible. Lots of boys and girls carry on a regular correspondence with the Pony Man long after the pony contests are over, and he gets a great deal of pleasure from it. Take, for instance, what these pony winners say:

DEAR PONY MAN:—
"Prince" is a beauty. I would not part with him for any price. I surely have been more than paid for what I have done for you. I tried to win a pony last year and didn't because I didn't try hard enough. I tried the "half work, half play" plan last year. This year I cut out the play and hustled—and I won. Anybody can win if he hustles.

HOWARD G. LAIDLAW,
Walton, New York.

DEAR PONY MAN:—
The pony "Bobby" came this morning and received an ovation from all the boys in town. Every one loves him, and I am the proudest boy in the country.

SEELY JENNINGS,
R. D. 11, Westport, Connecticut.

DEAR PONY MAN:—
I am very proud of my pony "Daisy" that arrived last week, and feel well paid for the time I spent. It was easy to get subscribers after I got started.

E. F. ALDEN,
Whitman, Massachusetts.

DEAR PONY MAN:—
I can't begin to tell you how happy I am in being the possessor of such a fine pony, cart and harness as you sent me. If I had started to get subscribers when the contest first opened, I believe I would have won first prize, but I couldn't wish a finer pony than "Billy."

HERMAN MORTON,
Kernersville, North Carolina.

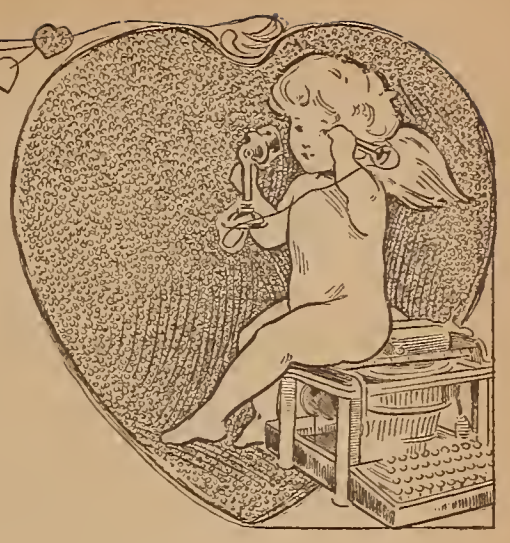
These letters show how much the contestants have enjoyed the pony contests, too.

A Chance for All

But it isn't the boys and girls alone that the pony contest benefits. All have an equal chance. To the "grown-ups" we offer beautiful Harrington pianos instead of ponies, and many other attractive prizes. And remember, we pay you *in cash,* in addition to all the prizes, for every subscription that you send us. Read our advertisement on page 18, and then write the "Pony Man," FARM AND FIRESIDE, Springfield, Ohio, for further information, to-day. Interest your children and friends in the contest, too. It is a great opportunity. You can win a handsome piano or pony in just a few weeks if you hustle!



INTRODUCING MRS. PAGE



By Anne Arundel

THE heat was overpowering. Some few government clerks slouched along the streets mopping their foreheads and futilely fanning with their hats. The few women who were out moved languidly and with seeming exertion. Turning into Seventeenth Street was a slight young girl who was apparently near exhaustion. Having eaten but little breakfast and walked far in the intense glare of the sun, she was, in reality, trembling. As she passed under the awning of a stationer's shop she was at once attracted by the dim, cool-looking interior.

She felt her slender purse, with the idea of buying pencil or pen, in order to get into the refreshing-looking place to rest for an instant. Deciding against the use of even a penny, she was about to move on, when the sign "Books Loaned at Two Cents a Day" gave her the excuse. The clerk directed her to the back of the store, where an electric fan made a comforting breeze and blew the hair about her pale face, that had signs of decided beauty under more favorable circumstances. Even now the unfashionable hat could not spoil the golden-brown hair which curled around her low forehead or the heavily lashed dark brown eyes which gazed timidly around like a hunted deer's. Her small mouth, pathetic now, but made for laughter, trembled still from exhaustion. As she encountered the cooled atmosphere she felt dizzy for an instant and blindly seized the nearest book, opening it haphazard. A visiting card, no doubt marking a place, caught her eye. It read:

> Introducing Mrs. Page
>
> MR. JULIAN JEROME
>
> Stoneleigh Court

The name "Jerome" certainly seemed strangely familiar. Suddenly she remembered—she had heard it that morning in the third-rate boarding house where all the doings of fashionable society in the Capital City were talked of with absorbing interest. This item, taken from the Society Column of "The Morning Inquirer," said that "Mr. Julian Jerome sailed yesterday for an indefinite stay abroad," and some one spoke of the cause, the sudden death of his young wife. The kindly disposed reader had at the same time called her attention to an advertisement for a typewriter by a prominent young lawyer. This had brought her out this fearful day, fearing either of two results—impertinent admiration, upon which she would leave precipitately, or, from reliable persons, such as this one, the fatal question as to reference—in either case a fruitless interview. The thought of what this card might mean to her came suddenly and with insistent force. Here was a reference; dare she catch at what might mean a livelihood?

Actual want or the humiliation of returning to unloving distant relatives awaited her. She had been goaded into coming by their unfriendliness; all she had in the world was the money for a ticket, kept as a last resort, to that little inland Virginia town where all her nearest and dearest were lying in the churchyard.

No! Go back beaten she would not, without, at any rate, taking advantage of what a friendly fate had at last seen fit to send her.

Thinking this out and stifling any qualms of conscience, she picked up book after book without even reading their titles, until finally she determined to make her venture, and saying that the book she wished was not there, she again went out to endure the dazzling heat that radiated from the pavements.

Hope is a wonderful stimulant, and the office mentioned in the paper was not far. She soon found herself in a large stone building, and then in the elevator, going to "Room 314." The boy grinned as she asked for the number, and muttered something about he "reckoned Mr. Mallory'd have to draw straws."

Put out on the third floor and directed to the left, without difficulty she found "314." The door was open, and about a dozen women sat or stood within; the advertiser had evidently been detained, as no man was in the room. Hearing hurried footsteps behind her, she turned to see a tall, broad-shouldered man coming down the corridor. Certain that it was the person she sought, she advanced, having received an affirmative reply to her somewhat timid "Mr. Mallory?" She handed him the card.

"Jerome!" he exclaimed. "Come in, I would like to talk to you. Any one Jerome sends me I would wish to try. His judgment is excellent." Then, catching sight of the motley array of females in the room, he took her through to his private office, and giving her a penetrating look, said:

"Sit down, and excuse me for a moment. I want to give an order for retreat to those other candidates."

She could hear his courteous regrets,



"'Mrs. Page,' he said abruptly, 'are you a widow?'"

and then steps, some apparently full of indignant protest, others slow or lagging, and her heart ached. She knew it all. But for this deception, what chance would she have stood? Now she knew she was to have an opportunity, and that her employer was a gentleman.

He stood before her.

"Mrs. Page." It was impossible to repress a slight start at the name. "Jerome's introduction is enough. It must have been his last kindness before sailing; he knew of my need. Can you begin your duties at once?"

"Certainly," she replied.

"Thank you. The work, although not especially heavy, is continuous, and my desk is piled with papers to be attended to. For your salary—" He paused a moment, and seeing how shabbily she was dressed, and how ill nourished she looked, named a sum so much larger than she expected that she said hastily:

"I must tell you that I am not a rapid, that is, only a moderately rapid writer, so perhaps you had better try me before naming any salary."

"It is not rapidity so much as accuracy that a lawyer needs," he rejoined; and touched by her frankness and extremely youthful appearance, he added decisively, "I am quite sure you will be worth that sum, so consider it settled. You may put your hat in the closet, and then come for explanation of the work. The typewriter is in the other office."

When she went to luncheon, after two hours' work, the wearing torment of daily needs was lifted from her mind, and she saw herself in a better room and her shabby clothes replaced by proper ones. The daring act which gave her this place she put as far away from her as possible.

A month passed—of quiet, busy days, days that seemed to go too quickly, as the thought of Mr. Jerome would loom up on her horizon. She had found a comfortable and congenial home with some well-born women, and her lovely face was round and rosy again. She worked faithfully and satisfactorily, apparently, for Mr. Mallory was kindness itself; as courteous as if she was one of the great people that, as she saw in the paper, he dined with almost every night. He startled her one morning by looking at her so intently that she was disturbed by it, and raising her eyes, caught his earnest gaze.

"Mrs. Page," he said abruptly, "are you a widow?"

She felt herself blushing furiously, and her voice trembled as she replied:

"No, but—but—I cannot talk of Mr. Page."

His look of indignant commiseration only increased her nervousness, and she was glad of the entrance of a client, which prevented his saying anything but a fervent "Pardon me!" His manner was almost distant after this incident, but in a thousand ways she felt his solicitude and kindness, which took a very different form from that of other men in the same building, if she could believe the conversations overheard in the elevator that carried several young women beside herself to and from their respective offices. The jocular teasing of the elevator boy as to seeing them at a second-rate theater with the "boss," and their superior airs and graces on this account, kept intercourse to a civil "good-morning" on her part, and a supercilious one on theirs. Often her face burned and she suffered from those free and easy ways which she thought must do much harm to self-respecting women who had to make their living. Then her own conscience spoke, and she blushed for herself, and wondered if, after all, any of these giddy girls would have done what she had. Could she call herself "self-respecting?" She also had tickets for concerts and the theater that Mr. Mallory was, apparently, unable to use, but there were always two, and so she could return some of the kindly interest her home makers took in her.

It was rather a relief at this time that her employer was a good deal out of the office, for when there she was so often conscious of his eyes upon her. Did he suspect, and would he ever forgive her? She hated to think of meriting his scorn for the lie she had led him to believe. For the first month or two being clothed and fed had counterbalanced the dread of her deceit or detection, but now the loss of Mr. Mallory's respect was the loaded end of that whip which lashed her conscience. Every letter that came with a foreign postmark gave her food for guilty reflection, and often only imaginary changes in the lawyer's manner disturbed her. The time came, however, when certainly it was not her imagination which was at fault. Mr. Mallory was nervous and restless, and often looked so tired from an evidently sleepless night that she asked if he were well. He would not own to being ill, but if she glanced up suddenly and caught his penetrating look, he would abruptly leave the office. The strain upon her was so great that she fancied it would be almost a relief to have him tell her he knew of the deception.

Six months after she came to him he startled her one morning by asking her to remain after closing hours. Her knees fairly shook, and she racked her brain to think of any error she had made. Then the thought "Has he heard from Mr. Jerome?" came like an evil spirit, and would not down, and she found that, after all, she was not anxious for detection.

Four o'clock came at last, and she delayed the interview by putting things away with the most precise neatness, until, all excuses for more time failing her, she found herself, feeling like a delinquent school girl, knocking at the inner office door. His "Come in, Mrs. Page!" gave her tortured conscience another blow. His voice sounded unusual. "Sit down, please. I have just had a letter from Jerome."

She was sure he must have heard the thump her heart gave.

"He has evidently missed mine, so does not know what a satisfactory helper he has sent me. In spite of this, I asked you to stay to advise you to accept another position, as secretary to a lady, which I know will be offered you."

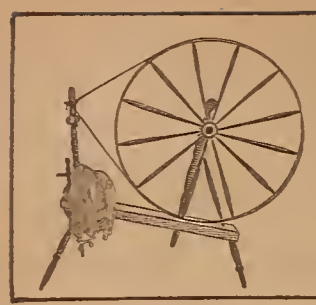
She grew very pale. "Am I to understand that you are not satisfied with me? What have I done? Please tell me! It is so hard to begin all over. You have been so good—and—I have been so happy." Her lips trembled and her eyes filled with tears.

"Child!" he cried passionately, "do not look at me like that! I cannot stand it! I have been struggling for weeks, months, against the desire to keep you! Ever since I asked you—about—your husband and knew, from your confusion and the straits to which you were reduced when you came to me, what a wretch he must be to leave you, when he is entitled to give you the love which is denied me. I cannot keep up the fight seeing you every day. I must let you go, though that tortures me, and battle it out alone."

She turned away to keep him from seeing the light that sprang into her eyes, and the telltale blush that should have been shame, but was not.

"Now you understand why you must

[CONCLUDED ON PAGE 17]



THE HOUSEHOLD



The Hay Box for Fireless Cooking

IT IS strange that a device so simple as that of the hay box for fireless cooking is so little known. Abroad, especially in the country districts of Norway and Germany, this device is widely used. It is very practical and so simple that it can be made by any one. A well-built wooden box or bucket without any cracks is padded solidly on the bottom and sides with hay to a thickness of about two and one half inches.

The box or bucket should be provided with a tightly fitting cover. The food, after being partially cooked, is put into the box (the covered utensil in which it is being cooked should fit snugly into the padded hay), and covered with a feather pillow or any substance that will keep the air away. It is a fact well known to every housewife that coffee can be kept warm by wrapping a towel or a woolen cloth about the pot, to prevent the heat once acquired from escaping. On this same principle the hay box works. The padding, which excludes the air, preserves the heat that has been developed by the preliminary cooking, and with the heat so preserved, the cooking process goes on.

Of course, the hay box is not practical in the case of steaks and chops or things which need a quick fire, nor in the case of vegetables, like potatoes, which are cooked in a comparatively short time, but for stews and roasts and foods that need a slow, steady heat it is very profitable, as it saves not only fuel, but time and attention. A roast cooked in the hay box does not have to be basted at all, and there is no danger of a stew or vegetables sticking to the pan and scorching. Things should be well started before they are put into the box. Some experiment may be necessary to determine the exact amount of preliminary cooking that is needed. Four or five minutes of actual boiling is said to be enough for most vegetables, while from twenty to thirty minutes is necessary for boiled meats and roasts. It is maintained that foods cooked in this way in their own waters which do not pass off in steam are more digestible and taste better. The sooner the food is put into the hay box, the better will be the results obtained.

That the lids of the utensils put in the box should fit closely is of the greatest importance. A box with several carefully packed nests may be used. In this way a whole dinner may be left to cook itself.

By use of this device it is practical to have hot tea and coffee at picnics, and even hot food if it is so desired.

◈

To Exterminate All Kinds of Pests

AMONG the cheapest and most efficient insect exterminators is alum. This has also the merit of being non-poisonous, and can be used freely without fear in households where there are little children. In its powdered form alum may be scattered over floors and pantry shelves, to keep away red and black ants. These little pests are a great annoyance in the hot weather, and especially in the country, where food has to be kept in large quantities. Other remedies for ants are red pepper scattered on the shelves, and five cents' worth of tartar emetic mixed with sugar and divided into three saucers, and placed where the ants are most troublesome. Alum water is even more efficacious than the powder. Dilute two pounds of alum with three quarts of boiling water, and apply to all suspected places, such as cracks in the floors and shelves, etc. It will discourage cockroaches and beetles as well as ants, and if sprinkled over currant and gooseberry bushes will kill the small green worms which sometimes infest them.

Fleas may be driven away by scattering lime or cayenne pepper in the places which they frequent. Oil of pennyroyal is good; so, also, is oil of lavender.

Castor beans planted near the doors will keep out mosquitoes, and coal oil poured on pools containing stagnant water will stop these pests from breeding. Rosemary sprinkled around the bedroom and on the bed is said to repel them, but the best preventives are tight screens and eternal vigilance.

Another summer-time nuisance is the fly. It is scarcely necessary to tell of the way in which flies carry about disease germs, leaving infection on any object on which they chance to alight. Prevention is by far the most important thing to observe in the case of flies. All windows and doors, particularly those of the kitchen, dining room, bedrooms and cellar, should be screened or netted in some way. Flies may be kept from walls, picture frames, etc., by painting the surface with laurel oil.

Powdered borax scattered under the paper on kitchen or pantry shelves drives away roaches and water bugs. It is also well to rub borax over hams and sides of meat in a smoke house, as it will keep them free from creepers.

Another great purifier is lime, which when sprinkled over chicken coops and on the floors will keep away chicken lice. Strong brine will also have the same effect.

The greatest enemies of the moth are cleanliness and light. The attic storeroom should be well lighted, and garments should be well brushed and cleaned before being put away. Care should be taken to remove grease spots from garments before they are put away for the summer, as moths are likely to attack such spots. The best preventive in the case of moths is the cedar chest or closet. If one does not possess either of these, it is well to place the garments on a sheet with newspapers between, as printers' ink is obnoxious to moths, and insert between the folds whatever preventive one has selected. Moth balls and camphor are good; so, also, are balls of cotton wadding saturated in cedar oil. If the oil is used, keep it from touching the garments, as it stains.

Good baits for mouse traps are cheese, apple and pumpkin seeds. Lumps of gum camphor scattered in drawers and cupboards will keep mice away. To destroy rats, fill any deep, smooth vessel of considerable capacity with water to within six inches of the top. Cover the surface with bran, and set the vessel in the haunts of the rats. In attempting to get at the bran they will fall in and be drowned.



An Attractive New Work Bag

THIS little bag is very charming when made of light crash and lined with Yale-blue silk. The ribbon ties, which should be of the same color as the lining, are run through buttonholed slashes.



A Linen Belt Bag

MADE of the same material as the shirt waist, and slipped over the belt, this bag is a useful accessory. The top of the bag is finished with a deep hemstitched hem and is held in shape by pieces of whalebone run through casings on the under side of the hem.



A Practical Laundry Bag

FOR this laundry bag use a strip of denim about sixty inches long and seventeen inches wide. Slip flat sticks, such as are used for window shades, through the hem at the top. This gives firmness and keeps the bag in shape. Allow a ten-inch opening from the hem down on the right side, bind with ribbon, make a hanger of ribbon, and ornament with a bow at each end.

Starting a Garden in July

DID you ever, around the February fire, with the early catalogues at hand, plan to set out a beautiful flower garden in the spring? And then did you have to clean house, and care for the chickens, and do hundreds of other things all through the spring days, until it was too late to plant your seeds?

After you thought it too late, perhaps you found that you had a little breathing space between the planting and the harvest, when you could get a man to plow a patch of ground, and you could afford to take the time to plant something, if only it weren't so late?

If that time comes before July 1st, it isn't too late. Of course, one can't have sweet peas or asters unless plants can be obtained from some friend. But there are hosts of annuals which can be had. Any of those in the following list have done well planted even as late as July 4th. Of course, the ground must be kept moist. It will be found necessary to shade the ground while the seedlings are small. Use boxes or canvas, and gradually remove them. As soon as the plantlets are large enough, the ground should be mulched with lawn clippings. These help to hold the moisture and keep the weeds down.

Our late garden was near the rear door, and received all of the waste water from the kitchen. The ground never dried out, and these late-planted annuals grew much faster than those planted very early. The following table gives the date at which they bloomed for us:

Alyssum—Six inches. Blooms three weeks from sowing seed. Flowers white.

Balsam—Eighteen inches to two feet. Blooms six weeks from seed. Flowers white, scarlet and pink. Likes hot sun, rich soil and lots of water.

Candytuft—Six inches to one foot. Blooms four to five weeks from seed. Flowers white, pink and lilac. Grows in any soil, with little care.

Cypress vine—Ten feet. Blooms six to eight weeks from seed. Fern-like leaves; red and white flowers. Foliage not dense enough to make good screen.

Mignonette—One foot. Blooms four weeks from seed. Flowers inconspicuous, but fragrant.

Nasturtium—One to ten feet. Blooms four to six weeks from seed.

Pansy—Six inches. Blooms from September to Thanksgiving, and again the next spring. Likes shade.

Petunia—Eighteen inches to two feet. Blooms six to eight weeks from seed. Grows anywhere. Fragrant, flowers pink, white and lavender.

Portulaca—Six inches. Blooms four to six weeks from seed. Likes dry, sandy place. Flowers red, white, pink, etc.

Nigella, or love in a mist—One foot. Blooms four weeks from seed. Blue flowers and fern-like foliage. Grows in any garden soil.

Corn flowers, or bachelor's buttons—One to two feet. Bloom six to eight weeks from seed. Flowers blue, pink and white. Next year seeds will self sow.

Sunflower—Four to six feet. Blooms in September. Late-sown seeds do not make such tall plants. Seedsmen sell double varieties, but not all seeds produce double flowers.

Forget me not—Six inches. Hardy, perennial. Blooms some, late the first year. Never wet the leaves when the sun is on the bed.

Pinks—Six inches to one foot. Bloom six to eight weeks from seed. Flowers red, pink, white and mottled. Foliage nearly evergreen. Hardy, perennial.

There are doubtless many other annuals which would do as well in the late garden, but the above are the only ones that the writer has tried.

Of course, hardy perennials or shrubs furnish the best flowers for the busy housewife, and if possible she should plant a few of these each year; but while they are growing—and it takes some time or much money to make a big display with perennials—annuals are good, and so inexpensive that all can have them.

◈

New Ways to Prepare Strawberries

FROSTED STRAWBERRIES—Beat the white of an egg for a minute or so; dip the berries, one by one, into the beaten white, roll in powdered sugar, and let dry.

STRAWBERRY RICE PUDDING—Boil one half cupful of rice in milk until done. When nearly cool, stir in gently fine, ripe strawberries. Sweeten to taste. Serve with a nice custard or whipped cream.

STRAWBERRY PIE—Into a rich, deep under crust that has been baked put sufficient strawberries to fill, and cover with sugar. Make a meringue of the whites of two eggs and one tablespoonful of sugar; cover the pie with it, and brown.

STRAWBERRY PUDDING—To one large teacupful of finely powdered bread crumbs add the yolks of four eggs and one quart of milk. Stir these together, flavor with vanilla, and bake. When done, remove from the oven, and spread on the top a thick layer of slightly mashed and well-sugared strawberries, and over this a meringue of the whites of the eggs sweetened. Return to the oven, and brown slightly.

STRAWBERRY FRITTERS—Beat together one cupful of sweet milk, one egg and one level tablespoonful of sugar. Dip into this slices of stale sponge or other loaf cake cut in neat squares. Fry in hot sweet lard, and arrange on a hot dish with strawberries generously sprinkled with sugar heaped upon each fritter. Serve with either plain or whipped cream slightly sweetened.

STRAWBERRY SANDWICHES—Four eggs, their weight in sugar, butter, flour and a pinch of salt. Beat the butter to a cream, gradually add the sugar and flour, then the well-beaten eggs, and beat all together for ten minutes longer. Pour the batter into a shallow pan, and let it bake for twenty minutes. Let it cool, then spread half the cake with a layer of crushed and sweetened strawberries. Place the other half of the cake on top, press lightly together, cut into small squares, and ice the tops and sides of each.



Smart Designs for Summer Shirt Waists





Many of the shirt waists for mid-summer wear are being made up this year in the cool wash silks. Those that are especially attractive are made of striped China silks, white grounds showing a colored stripe. The silk waists are generally in the tailored style with a frill down the front.



No. 1110—Box-Plaited Waist With Revers
Pattern cut for 34, 36, 38 and 40 inch bust measures. Quantity of material required for medium size, or 36 inch bust, four yards of twenty-seven-inch material, or two and three fourths yards of thirty-six-inch material, with one half yard of contrasting material.

No. 1032—Tucked Shirt Waist in Two Styles
Pattern cut for 32, 34, 36 and 38 inch bust measures. Quantity of material required for medium size, or 36 inch bust, three yards of thirty-six-inch matcrial, or two yards of forty-four-inch material.


No. 1110


No. 1111


No. 1031



No. 1112—Lingerie Waist With Yoke
Pattern cut for 32, 34, 36 and 38 inch bust measures. Quantity of material required for medium size, or 36 inch bust, two and three fourths yards of twenty-two-inch material, with tbree eighths of a yard of inserted tucking for collar and armband, and one half yard of all-over lace for yoke.


No. 1032


No. 948


No. 1108




No. 1112

With the embroidered linen shirt waist are sold embroidered belts and neck tabs or bows to match. They are extremely good style all in white, but if the waist is embroidered in color, then the belt and neck piece must be, also. This touch of black gives a certain smart character to an all-white waist.



No. 1111—Tailored Shirt Waist
Pattern cut for 34, 36, 38, 40 and 42 inch bust measures. Quantity of material required for medium size, or 38 inch bust, four yards of twenty-seven-inch material, or two and three fourths yards of thirty-six-incb material.

No. 948—Tucked Shirt Waist With Plaited Trimming
Pattern cut for 34, 36, 38 and 40 inch bust measures. Quantity of material required for medium size, or 36 inch bust, four yards of twenty-seven-inch material, or two and three fourths yards of thirty-six-inch material, with three yards of plaiting for trimming.



Extremely narrow neckties of black satin are worn with many of the lingerie waists just at the base of the collar. Some are tied in a small four-in-hand and have two or three dangling ends finished with a black satin tassel.



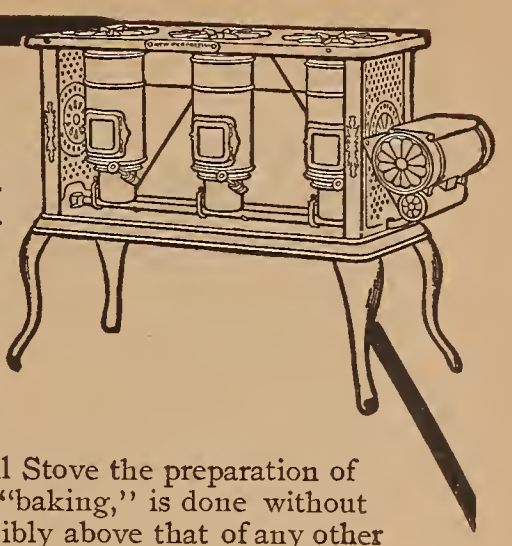
No. 1031—Tailored Bretelle Shirt Waist
Pattern cut for 34, 36, 38 and 40 inch bust measures. Quantity of material required for medium size, or 36 incb bust, three yards of tbirty-six-inch material, or two yards of forty-four-inch material.

No. 1108—Box-Plaited Shirt Waist With Jabot
Pattern cut for 34, 36, 38 and 40 inch bust measures. Quantity of material required for medium size, or 36 inch bust, four yards of twenty-seven-inch material, or two and three fourths yards of thirty-six-inch material, with one half yard of tucking and three and one fourth yards of ruffling for frills.

Important Notice

For every design illustrated on this page we will furnish a pattern at ten cents. Order patterns by their numbers from the Pattern Department, Farm and Fireside, 11 East 24th Street, New York City.

Plan for Summer Comfort



Don't add the heat of a kitchen fire to the sufficient discomfort of hot weather.

Use a New Perfection Wick Blue Flame Oil Cook-Stove and cook in comfort.

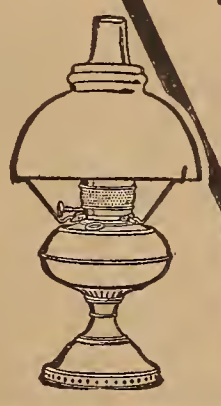
With a "New Perfection" Oil Stove the preparation of daily meals, or the big weekly "baking," is done without raising the temperature perceptibly above that of any other room in the house.

If you once have experience with the

NEW PERFECTION
Wick Blue Flame Oil Cook-Stove

you will be amazed at the restful way in which it enables you to do work that has heretofore overheated the kitchen and yourself.

The "New Perfection" Stove is ideal for summer use. Made in three sizes and all warranted. If not at your dealer's, write our nearest agency.



The **Rayo Lamp** gives perfect combustion whether high or low— is therefore free from disagreeable odor and cannot smoke. Safe, convenient, ornamental—the ideal light. If not at your dealer's, write our nearest agency.

STANDARD OIL COMPANY
(INCORPORATED

"A Kalamazoo Direct to You"
TRADE MARK REGISTERED



WRITE TODAY FOR STOVE CATALOG NO. 183.
KALAMAZOO STOVE COMPANY, Mfrs., Kalamazoo, Mich.

Novelties in the New York Shops

NOVELTIES IN PINS

THERE is a strong fad at present for large veil or collar pins, which misses and young women are wearing in neckwear or prevailing types. They come in a variety of designs and settings. Some are shaped and embossed in representation of a ribbon bow, feather and butterfly.

Quite a novelty pin seen in the big shops has as its principal decorative feature some of the music notes and bars of a now popular waltz inlaid in the face. The notes are worked out in gilt metal and are surrounded by a pale blue enameling, all of which is laid upon a heavy metal back equipped with a substantial hook and pin. The pins are two and one fourth inches in length and one fourth of an inch in width. They can be obtained in different colors of enameling.

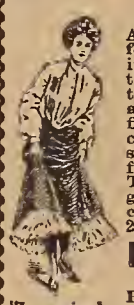
NEW RIBBON COMB

All young girls will be glad to know about the new ribbon comb, which has just been put upon the market. It consists of a celluloid band in tortoise coloring, which forms a complete circle, and thus fits the head well. At each end there are two combs to fasten into the hair. There are slots at intervals in the band through which the ribbon is run. When worn it has much the effect of being threaded through the hair, and the fetchy little bow at the side of the head gives a chic and charming touch to the coiffure. These combs are an aid to the Greek style of hair dress, which is more or less popular at present.

EMBROIDERIES

The use of embroideries as a trimming for lingerie and for wash waists is much in evidence this summer. Bands are the first favorite, but flounces are in good style, also. The all-over embroidery waist is much worn by the fashionable woman, and promises to continue in vogue for some time to come. Broderie anglais effects are more popular than ever. Very neat blind patterns showing only a touch of open work have also been very successfully introduced. These are close simulations of hand embroidery. Patterns showing lace are excellent, and especially so are those with filet. Exquisite embroideries in combination with Cluny and baby Irish lace make effective waist trimmings.

ALLEN'S FOOT-EASE
Shake Into Your Shoes



Allen's Foot=Ease, a powder for the feet. It relieves painful, swollen, smarting, nervous feet, and instantly takes the sting out of corns and bunions. It's the greatest comfort discovery of the age. Allen's Foot=Ease makes tight-fitting or new shoes feel easy. It is a certain cure for ingrowing nails, sweating, callous and hot, tired, aching feet. We have over 30,000 testimonials. TRY IT TO-DAY. Sold by all Druggists and Shoe Stores, 25c. Do not accept any substitute. Sent by mail for 25c. in stamps.

FREE TRIAL PACKAGE sent by mail.

MOTHER GRAY'S SWEET POWDERS, the best medicine for Feverish, sickly Children. Sold by Druggists everywhere.

Trial Package FREE. Address
ALLEN S. OLMSTED, Le Roy, N. Y.

"In a pinch, use Allen's Foot-Ease."

Ten Days' Free Trial



allowed on every bicycle we sell. We ***Ship on Approval*** and trial to anyone in U. S. and *prepay the freight.* If you are not satisfied with bicycle after using it ten days *don't pay a cent.*

Factory Prices *Do not buy* a bicycle or a pair of tires from *anyone* at *any price* until you receive our latest **Art Catalogs** of high grade bicycles and sundries and learn our *unheard of prices* and *marvelous new offers.*

It Only Costs a cent to write a postal and everything will be sent you **FREE** by return mail. You will get much valuable information. **Do Not Wait;** write it **Now!**

Tires, Coaster Brakes, single wheels, parts, repairs and sundries at *half usual prices.*

MEAD CYCLE CO., Dept. W-83 Chicago

CATALOGUE OF
Embroidery Designs
By Evelyn Parsons

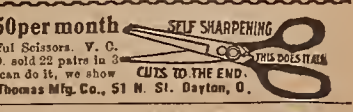
This catalogue comprises thirty-six illustrated pages with designs of every variety of correct embroidery, including stocks, belts, collars, cuffs, waists, hats, parasols, lingerie, baby's layettes and dozens of other things—by far the finest designs for embroidery we have ever issued.

Sent to any reader of FARM AND FIRESIDE on receipt of three 2-cent stamps. Address

EMBROIDERY DEPARTMENT
Farm and Fireside, 11 E. 24th Street
NEW YORK CITY

Agents Wanted

Agents $103.50 per month selling these wonderful Scissors. V. C. Oleboer, Columbus, O. sold 22 pairs in 3 hours, made $13; you can do it, we show how. Full Outfit F. Thomas Mfg. Co., 51 N. St. Dayton, O.



AGENTS PORTRAITS 85c, FRAMES 15c, sheet pictures 1c, stereoscopes 25c, views 1c. 30 days credit. Samples & Catalog Free. Consolidated Portrait Co., 290—81 W. Adams St., Chicago

A Page of Practical Summer Fashions



No. 911—Tucked Waist With Square Yoke
Sizes 32, 34, 36 and 38 inch bust measures.

No. 912—Gored Skirt Tucked in Clusters
Sizes 22, 24, 26 and 28 inch waist measures.



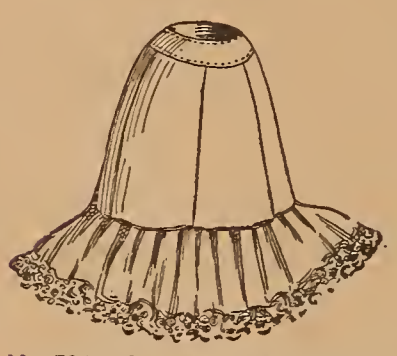
No. 701—Girls' Blouse Dress
Sizes 6, 8, 10 and 12 years.



No. 878—Russian Suit With Panel Front
Sizes 4, 6 and 8 years.



No. 783—Baby Princess Dress
Sizes 34, 36 and 38 inch bust measures.



No. 704—Short Petticoat With or Without Yoke
Sizes 24, 26, 28 and 30 inch waist measures.



No. 925—Shirt Waist With Yoke Extended in Tabs
Sizes 34, 36, 38 and 40 inch bust measures.

No. 926—Seven-Gored Band-Trimmed Skirt
Sizes 24, 26, 28 and 30 inch waist measures.



No. 681—Baby Sacques
Cut for one size only.



No. 581—Tucked Bed Jacket
Sizes 34, 36, 38 and 40 inch bust measures.



No. 956—Chafing-Dish Apron



No. 624—Morning Jacket
Sizes 32, 34, 36 and 38 inch bust measures.

SPRING AND SUMMER CATALOGUE OF
MADISON SQUARE PATTERNS

Our new summer catalogue cannot help but be invaluable to the woman who makes her own clothes. We will send it to your address for four cents in stamps. Order patterns and catalogue from the Pattern Department, FARM AND FIRESIDE, 11 East 24th Street, New York City.

Full descriptions and directions are sent with the pattern as to the number of yards of material required, the number and the names of the different pieces in the pattern, how to cut and fit and put the garment together, and also a picture of the garment as a model to go by.

THE PRICE OF EACH PATTERN IS 10 CENTS

When ordering be sure to comply with the following directions: For ladies' waists, give bust measure in inches; for skirt pattern, give waist measure in inches; for misses and children, give age. To get bust and breast measures, put a tape measure all the way around the body, over the dress, close under the arms. Order patterns by their numbers. Satisfaction guaranteed or money refunded.

OUR LATEST LIBERAL OFFER

We will give any two of these patterns for sending two yearly subscriptions to FARM AND FIRESIDE at the regular price of 25 cents each. Your own subscription may be one of the two. When ordering, write your name and address distinctly. We will send FARM AND FIRESIDE one year, new or renewal, and any one pattern for only 30 cents.



No. 986—One-Piece Princess Apron
Sizes 4, 6 and 8 years.

Copyright, 1908, by The Crowell Publishing Company

Miss Gould's Fashion Page

I want every reader of my fashion pages in Farm and Fireside to feel that she may come to me with all her little perplexing dress problems, and that in every way that I can I will help her, through a personal letter. If at any time you wish to know the prevailing fashions and the fashion novelties as seen in the big New York shops, just say so, and I will gladly include the information you require in my letter.

Send your letter, enclosing a stamped and self-addressed envelope, to Miss Gould, care Farm and Fireside, 11 East 24th Street, New York City.

GRACE M. GOULD.

So pronounced is the vogue for bordered fabrics this summer that they are to be found in almost every material, from the expensive filmy marquisettes, which have a hand-painted effect, to the ginghams and inexpensive cotton voiles for every-day wear. The robe costumes show beautiful embroideries in border effects, worked in silk flosses or soutache braids, and the satin-finished foulards show the most artistic of borders.

As for the ginghams, they revel in borders this summer, and so very lovely are they in designs and colors that they not only serve for morning dresses, but are being used for some of the prettiest of the summer afternoon gowns.

TAILORED SUITS FOR SUMMER

Some smart coat-and-skirt costumes are made of light-weight poplin. They are shown in shades of gray forming stripes of the hair-line order, although in a few the stripes are fully half an inch wide. The skirts are plain gored models with broad trimming bands of self fabric.

The jackets are lined with striped China silk, which is a pleasing change from the plain taffeta and satin linings. They are trimmed with silk braid in one of the shades of gray shown in the fabric, or plain black braid is used on all the edges.

Quite the newest idea in treating darts in the summer jackets is shown in the imported models. The darts start from the shoulders, and the space that is left by the piece that is cut away or curved in is not closed. Sometimes it is left open, so as to show the waist beneath, while in other jackets the space is filled in with some sort of trimming. At its starting point from the shoulder seam the dart, or open space, is about two inches wide, and following a slanting line, terminates in a point just above the waistline. This novel arrangement is extremely effective, especially when, as is almost always the case, such jackets, which always form part of a suit, are worn over a white lace waist.

THE NEW WAISTS

Blouses of wash maline are a novelty worthy of special comment. The net is very fine, and may be laundered successfully.

These waists are made in what is called the tailored effect. The net is solidly tucked in half-inch tucks with a fourth of an inch between. After it has been tucked the net is made into perfectly plain shirt waists with long sleeves. Sometimes the tucks run up and down, and in other waists they are bias, but in the sleeves they run around the arms. The front is finished with a double frill, either arranged in jabot form or in overlapping double frills at one side of the front fastening. These waists are lined with a washable chiffon. They are finished at the neck with the high boned transparent collar. They are a marked contrast to the lace-trimmed net waists that have been worn all summer, and are another indication of the fact that fashion favors simple effects in dress. There is not a particle of lace used in their construction, the frills being finished with straight hems and several rows of machine stitching.



No. 937—Surplice Waist With Shawl Collar

Pattern cut for 32, 34, 36 and 38 inch bust measures. Quantity of material required for medium size, or 36 inch bust, three yards of twenty-two-inch material, or two and one half yards of thirty-six-inch material, three fourths of a yard of all-over lace, three fourths of a yard of inserted tucking and two yards of lace for frills.

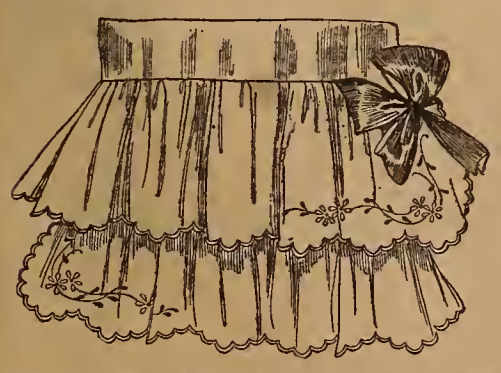
No. 938—Skirt With Graduated Flounce

Pattern cut for 24, 26, 28 and 30 inch waist measures. Length of skirt in front, 42 inches. Quantity of material required for medium size, or 26 inch waist, eleven yards of twenty-two-inch material, or eight yards of thirty-six-inch material.

These patterns may be obtained from the Pattern Department, Farm and Fireside, 11 East 24th Street, New York City. The price of each pattern is ten cents.

The woman who makes her own lingerie, and is willing to spend some time embroidering during the summer months, will find the design illustrated on this page especially attractive. The corset cover is one of the new French models with scalloped edges and an effective embroidered spray in front. Ribbon bows trim the shoulders. The material used for this corset cover is a fine quality of India lawn. This is an excellent fabric to embroider upon, and its wearing qualities are of the best.

The design on the corset cover is repeated on the corners of the ruffles for the drawers. They open at the outside of each leg and are finished with large ribbon bows. We provide only the ruffles for the drawers, not the whole pattern. The ruffles may be used to trim drawers made of batiste, cambric or India lawn. They are of the same material as the corset cover.



No. 18—Drawers Ruffles (Only the Ruffle is Provided). Stamped on Lawn, 55 Cents. Perforated Pattern, 20 Cents. Embroidery Cotton, 10 Cents a Ball.

Rules for Using Our Embroidery Patterns

Many of our subscribers have asked for directions for using the embroidery patterns, so we are printing them here, in order that everybody who buys one of the Farm and Fireside embroidery patterns may know how to use it correctly.

The process of stamping is very simple and is something that any one can do. The pattern is laid with the rough side against the goods, and over this the stamping paste is rubbed. Do not press hard on the paper with the stamping pad. Rub over it lightly. Full directions for using are given with the box of paste, and a small stamping pad is also provided. The price of the stamping paste is ten cents a box.

After using a pattern, clean it carefully with a cloth wet with kerosene. If the pattern is kept clean it may be used any number of times.

Perhaps it is because women refuse to stay at home when it storms, and perhaps it is only another way that manufacturers have planned to have them spend money on accessories for rainy-day wear, but whatever is the reason, women's rubbers are occupying much space in shoe stores at present.

There are the ordinary-looking black storm rubbers for general wear, to be sure, but with them may be found some of the zephyr styles—light-weight rubbers that are put up in small rubber envelopes and occupy only a tiny space in the coat pocket, shopping bag or week-end suit case. The envelopes are quite a feature of these rubbers. Some are gay plaids or stripes, while others are made to order from the same material as the raincoat, and are sure to please the woman who likes things to match, even if they are only to be used on stormy days.

There are fine white rubbers to wear with canvas and white kid shoes, and since tan shoes have become so fashionable, there are tan rubbers, too. So great has been the demand for tan rubbers that they are made in as many different styles and weights as black ones. Many women who do not know that tan rubbers may be found at all shoe stores will not wear tan shoes when it rains, because black rubbers over brown shoes are very unattractive.

Just now women in New York are not favoring lingerie corset covers and silk slips. Indeed, they have ceased to be a prominent feature, and in their place a very fine white silk jersey is being worn. This is an especially good idea in these days of lace and net waists, as nothing could possibly show the waists to better advantage than the silk jersey. It is also appropriate to wear under a lingerie waist, for many of the fabrics used for lingerie waists are mercerized and closely resemble silk.



No. 17—Corset Cover (Cut in 34, 36 and 38 Inch Bust Measures). Stamped on Lawn, 75 Cents. Perforated Pattern, 35 Cents. Embroidery Cotton, 10 Cents a Ball.

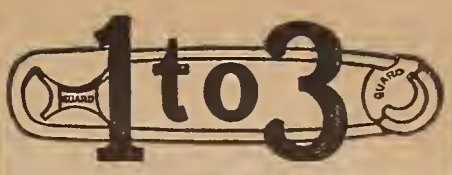
When Ordering Embroidery Patterns

IMPORTANT NOTICE—Remit by money order, currency or stamps. To the amount of any check drawn on a bank not in New York City, ten cents must be added for exchange.

We cannot be responsible for packages sent through the mail, unless the necessary stamps or money for registration are added.

Note—We ask you if possible to send postal money orders made payable to Farm and Fireside in preference to stamps.

Address "Embroidery Department," Farm and Fireside, Springfield, Ohio.



Saving a cent on a paper of pins and buying three papers, is poor economy; when *one* paper of

STEWART'S DUPLEX SAFETY PINS

will outlast three of any other kind. They are the best because the stiffer wire doesn't bend, and they stay fastened. The sharp points and the guarded spring prevent tearing the cloth. Fasten from either side, but can't slip through. The only pin that guarantees safety and comfort.

If your dealer does not keep them, send us his name and address with four cents in stamps for samples, retailing for twice the money. Examine them carefully, and you'll always ask for Stewart's Duplex Safety Pins. See that all cards bear the name of

CONSOLIDATED SAFETY PIN CO.
169 Farrand St. Bloomfield, N. J.

PRIZE WINNERS FOR MAY

In the Merchandise Payment Department

The following are the **Cash Prize** winners for the month of May. They are the fifty-three Farm and Fireside representatives who sent us the most subscriptions during that month. Notice how few points it took to get a prize—even the big prizes! All the **Cash Prizes** are entirely **in addition** to the handsome and liberal Merchandise Payments.

	Name	State	Points
1	Marguerite Lawson	Kentucky	37
2	Freda M. Langdon	California	32
3	Mrs. Maude Jeffers	Indiana	29
4	Mrs. H. Lebert	Nebraska	25
5	Mrs. Cora Greenfield	Michigan	25
6	Mary J. Trumbo	Kentucky	25
7	Mrs. M. Jacobson	Idaho	25
8	Esther M. O'Brian	New York	25
9	Martha A. Alley	Oregon	25
10	Ruth E. Smith	South Dakota	25
11	Mrs. J. W. Johnson	Massachusetts	24
12	Andrew Carlson	Montana	22
13	Mrs. C. E. Jacox	Wyoming	19
14	Harold Clapsaddle	Ohio	17
15	Hugh Franklin	Pennsylvania.	16
16	Mrs. Susan E. Hardin	Illinois	16
17	Samuel McMurray	Pennsylvania.	15
18	Lottie Gentzler	Missouri	15
19	Clarence Speidel	Ohio	13
20	Mrs. Catherine Gearhart	Illinois	13
21	Minnie Wibbeler	Indiana	12
22	Marjorie Beall	Indiana	12
23	Harvey Rudd	Illinois	12
24	Wm. T. Crops	New York	12
25	Blanche Krieder	Pennsylvania.	12
26	Mary Moffitt	Texas	12
27	Starkey C. Knotts	West Virginia	11
28	Belle Barrett	Nebraska	11
29	Paul Kegiesse	Massachusetts	10
30	Claude Schrantz	Ohio	10
31	Wm. Barbour	Pennsylvania.	10
32	W. H. Reece	West Virginia	10
33	Mrs. Lucy Fidler	Tennessee	9
34	Forrest Dover	Arkansas	8
35	Harold E. Davis	Connecticut	8
36	Charlie Gibbs	Illinois	8
37	Clifford Weaver	Illinois	8
38	Virgil Carmichael	Indiana	8
39	Ralph Shelton	Indiana	8
40	Archie Elliott	Kansas	8
41	Mrs. Chas. Pivonka	Kansas	8
42	Ollie Wetterhold	Kansas	8
43	Oral McKee	Michigan	8
44	S. N. Goodrich	New York	8
45	Connie Gorman	New York	8
46	J. W. Spink	New York	8
47	Curtis Riley	Oklahoma	8
48	Brooks Roe	Tennessee	8
49	Luther Bynum	Texas	8
50	Herman Larson	Washington	8
51	Elsie Owens	Kentucky	7
52	Alice Atkinson	Michigan	7
53	Jennie V. Leibhart	Pennsylvania.	7

If you don't know all about the Merchandise Payment Department, write for our big illustrated catalogue and full particulars. It will be sent immediately without cost to you.

MERCHANDISE PAYMENT DEPARTMENT
Farm and Fireside **Springfield, Ohio**

Those Clothes Must be Washed

every week. The present conditions for doing it are intolerable. We will solve the problem for you with the Syracuse "EASY" Washer free of charge for 30 days, and the balance of your lifetime, for what the "EASY" saves you in a few weeks. Booklet of washing formulas free. Agents wanted.

DODGE & ZUILL
284 Z Dillaye Bldg., Syracuse, N.Y.





A Little Gold-Mine for Women

The U. S. Cook-Stove Fruit-Drier

Dries all kinds of Fruits, Berries, Cherries, Corn, Vegetables, etc. It takes no extra fire. Always ready for use, and will last a lifetime. It works while you cook. Write for circulars and special terms to agents. Price $5.

E. B. FAHRNEY, Box 125, Waynesboro, Pa.

All About Texas

Oklahoma, Arkansas, Louisiana, New Mexico. Homes for the homeless, prosperity for the industrious. The home builders' guide. Send stamp for sample copy.

FARM AND RANCH, Dallas, Texas.

SAN JOSE, the "Garden City" of CALIFORNIA

In the heart of the famous **Santa Clara Valley.** The **educational, horticultural, scenic** and **home center** of California. Delightful all-year-round climate. Send for free illustrated booklet C. Address,

Chamber of Commerce, San Jose, California

CALIFORNIA Irrigated Fruit, Alfalfa Farms. Easy payments. Special offer. New Gov't aided canal. Catalog free. Wooster, 702 Market St., San Francisco.

The **UNIVERSAL MAGAZINE** the most interesting. Send 25 cents for one year's subscription and 12 beautiful pictures. Address, **HALE PUBLISHING CO.,** 5530 Vista Avenue, St. Louis, Mo.

It is to your advantage to mention Farm and Fireside in writing to advertisers. Farm and Fireside folks get the very best attention.

OUR YOUNG FOLKS' DEPARTMENT

Tommy's Glorious Fourth

BY FANNIE MEDBURY PENDLETON

UNCLE NED looked very solemn indeed.

"And do you mean to tell me that Tommy O'Rourke hates the Fourth of July?"

There was a shrill chorus.

"He said he did, and he wouldn't shoot firecrackers nor torpedoes, 'cause they're no fun, anyway."

"Whew!" whistled Uncle Ned. "I didn't think there was a boy like that in the whole country. Maybe there is a reason for Tommy's feelings. Perhaps he doesn't have as much of a Fourth as you do. You know I've promised to help you celebrate, and I propose we show Tommy O'Rourke how nice a real Fourth can be. You get all your firecrackers, and I'll soon be back with him," and Uncle Ned strode out of the gate.

How he did it they never knew; but half an hour later he reappeared, holding Tommy by the hand. The boy's eyes were red, and his freckled face was shining with cleanliness; but, more than that, there was a look of great wonder at his invitation.

Uncle Ned supplied him with firecrackers and punk, and he was soon in the midst of the fun. His crackers went off just at the right moment and his "sissers" were the envy of the other boys. The little, brown face was aglow with happy smiles, and Uncle Ned, who was the jolliest boy of all that day, watched him with a little lump in his throat.

There were many sorts and sizes of firecrackers and torpedoes; and Tommy was in the thick of it all, his small grimy hands busy as bees, his eyes dancing with happiness, and his stomach comforted with Aunt Molly's good things to eat.

It was dusk when Mrs. O'Rourke arrived on special invitation to witness the grand display of fireworks.

"An' it's the toime of yer loife ye're havin' allannah," she said to Tommy, "thanks to the kind hearts. Sure, sir, it's Tommy that saved up twinty cints fer the Fourth, an' that dirty Moike Rafferty took 'em away this marnin'—bad cess to 'im, an' 'im there wid not a cracker at all, at all!"

The boys looked at each other and then at the shamefaced Tommy, but Uncle Ned came to the rescue.

"It's high time to begin, boys," he cried. "It might be well to settle beforehand who is to help me send up the big rocket."

"Let Tommy!" they cried with one voice, and "Tommy it is," said jolly Uncle Ned.

Then came the other rockets—a great many of them—the Roman candles, giant crackers, pinwheels, and last of all the big paper balloon. The boys watched breathlessly as it mounted higher and higher, careening as the air currents struck it; then, righting itself, it drifted straight toward the hill. As the balloon, now only a mere point of light, was swallowed up in the distance, Uncle Ned turned.

"Hats off, boys," he cried. "Three cheers for our country and for Independence Day!"

The boys gave the cheers with a will, and Tommy's voice was loudest of them all.

◈

Cousin Sally's Letter

DEAR BOYS AND GIRLS:—

What great fun you must be having these warm summer days, reading and playing under the trees, wading in brooks and sailing boats. I realize how very lucky I am to have so many cousins when I get your delightful letters telling about your out-of-doors play.

One boy has written me about a frog that lives in a spring on his farm and is so tame that it does not mind being lifted out of the water. I am sure many of you must have little half-wild animal friends like this, and I should be so glad if you would write me about them.

There was a very great and good man, who lived many hundreds of years ago, who so loved birds and beasts, and even insects, that he used to call them his little brothers and sisters. Often he went out into the woods, and calling to his little brothers of the air, fed them and talked to them for many hours. And the birds and beasts got to know him, and so felt his love for them that they followed him about wherever he went. In your own experience with pets you must have noticed how keenly they appreciate your care and how they seem to know instinctively whether you really love them. There is something true and wholesome about all people who care for animals, just as there seems to be some bad, mean little spot in those who destroy them merely for the savage joy of killing.

Don't forget to write and tell me about all your animal friends and any pets you may have.

Affectionately,
COUSIN SALLY.



"THREE CHEERS FOR THE FOURTH OF JULY!"

An Old-Fashioned Independence Day

BY EDWIN L. SABIN

When grandpa was a boy, you know,
As much as sixty years ago
(Unless he's fooling me with fibs),
Upon the Fourth he just had "squibs,"
Which only made a little noise—
Not half enough for *modern* boys—
Not bigger than torpedoes do,
The kind that's shot by fraidy Sue.

And he got up at midnight, he
And other fellows, two or three,
And rang the church bell in the spire
Until some people thought 'twas *fire*,
And nightcaps stuck out through the town,
And the old watchman bustled down!
And then they scampered off unseen
And "banged" an anvil on the "green!"

The anvil raised as big a fuss
As cannon crackers do for us;
And then, I guess, the people knew
'Twas Independence Day, don't you?
Our "Independence Day" was how
They named it! not the "Fourth," as now.
And then the boys sneaked home again
And chuckled 'neath the counterpane!

'Twas on the "green" or "common" they
All gathered Independence Day.
The town militia drilled! Huzza!
The band played "Hail, Columbia!"
And old Squire Taylor read out loud
The Declaration to the crowd—
He couldn't read it worth a cent,
But every one knew what he meant.

And Henry Clay once made a speech—
My grandpa could remember each
And every word a long time, for
Clay was so great an orator!
And there weren't any fireworks fired—
The people all went home too tired!
The next day's work loomed up ahead,
And sundown sent them straight to bed.

◈

STORIES AND LETTERS FROM OUR BOYS AND GIRLS

Aunt Helen

BY HARRIET M. BLANCHARD, AGE TEN

"I THINK that it's mean for it to rain on Saturday," cried May Allen impatiently, and Fay added, "Yes, it is, especially when Gertie was coming home."

Just then Aunt Helen walked in.

"Well, little sunbeams, I've come over to cheer you up," she cried.

Tears were banished. At aunty's command, scissors, paste and old match boxes were procured. Mother brought out some tissue paper and small pasteboard boxes.

They covered the boxes with ruffles of crimped paper and filled them with candy.

Aunt Helen brought in the half of dried egg shells. These she gave a coating of glue, and over this she put a fringy covering. The inside was prettily lined, and a handle of braided tissue paper was stuck on.

All day they worked hard, and the rain was forgotten; indeed, when May looked out of the window, she exclaimed, in surprise, "Why, the rain has all stopped and the sun is shining!"

And so the rainy day passed pleasantly.

◈

A Clever Cat

BY NORENE SREGOR, AGE THIRTEEN

CARRIE, the tabby cat, with her three fine kittens, lay behind the stove in a small country grocery store, perfectly contented. She was very proud of her kittens, and she had good reason to be, as they were as pretty kittens as could be found anywhere. So far in their short lives they had never been out of the basket in which they slept, for it was cold winter weather outdoors.

There they lay sleeping when Harry Smithe came into the store with a basket on one arm and a bag over his shoulder.

"Anything to-day?" the grocer asked Mr. Smithe.

"Why, I guess I'll take some groceries, and then I'll take those kittens you promised me."

"All right," said the grocer.

After the groceries were all weighed, measured and packed in the basket, Harry started to get the kittens. Carrie lay there blinking her eyes and purring contentedly, but no kittens were to be found. And no searching brought them to light, either. So Harry had to go home with an empty bag, wondering who had stolen poor Carrie's kittens.

Early the next morning Jack, the chore boy, saw Carrie shyly sneaking in among some empty boxes in a vacant lot behind the store. Upon searching there, he discovered all three kittens snugly hidden away in a box.

"Well, Madame Carrie," he said, "I'll tell no secrets. You're too clever for a cat."

Billy Boy

BY ALMA G. MCINTIRE

BILLY BOY was a stout, robust little fellow, with red hair and dark eyes. He had lived in the country all his life, and had no playmates except the birds and bees and such creatures as inhabit the forests. He was now fifteen years of age, and had fully decided that he would run away and make the city his home. He arose early one morning, and without asking permission, walked off, leaving his beloved parents to toil and suffer over his disobedience.

Billy Boy arrived in the city, and was strolling carelessly around, looking at the large buildings and such amusements as make a city. As he was going down the main street he stopped in front of a furniture store and picked up a door mat which had "Welcome" on it, and started down the street. The owner of the store saw him, and had him arrested. The policeman asked him why he took it, and with tearful eyes he said, "I allowed I had a perfect right to, because it had 'Welcome' on it."

Poor Billy Boy was very thankful to have his kind-hearted father come and release him from prison.

Afterward Billy Boy was willing to stay under the watchful care of his parents on the farm and be an obedient son.

◈

The Letter Box

DEAR COUSIN SALLY:—I am glad I have a new cousin, and I am sure many other boys and girls are, too. I think the "Young Folks'" corner very nice, and enjoy it very much. I sent a short story a short time ago, and was so fortunate as to have it printed, and afterward it was published in our county paper.

I am twelve years old, and the oldest of the family, and I am glad of it. I have three sisters and one brother. My sisters' names are Mildred, Bernice and Hazel. My brother's name is Francis.

I go to a small district school in northern New York, about four miles from the Canadian border, so a great many of our neighbors are Canadians. We have a very good library for a district school—sixty-six books. I have read them all, but I like ancient Greek history and mythology best of all.

My sister Mildred, nine years old, is writing, too. If you wish, I can write some stories of pioneer life, as my grandfather came to this place when he was five years old, and he used to tell us stories of his youthful days.

Your loving cousin,
ESTHER O'BRIAN.

◈

DEAR COUSIN SALLY:—I am one of your new cousins and am thirteen years old. My home is in New York State and I think it is one of the nicest states.

Once I went to visit my aunt in New York City, which is the largest city in this country. It is very big and the streets are always full of people who seem to be in a great hurry. There are a great number of very tall buildings in New York; some of them are thirty or forty stories high and are called "skyscrapers." On some of the streets where there are high buildings on both sides it is usually quite dark, as the buildings shut out the sunlight.

I was very glad to get back home. While I was away one of my hens, which had been sitting, hatched out nine little chicks. They are very cunning.

My school closes next week.

Your loving cousin,
JANE CARVER.

◈

DEAR COUSIN SALLY:—I am nine years old. I have a flower garden. The story I liked best was "The Kittens Hunting a Home." In my flower garden I am going to plant marigolds, sweet peas, petunias and phlox. I have some wild flowers in my garden. They are buttercups, violets and bluebells. I have some monthly roses, also. They are very pretty. I like to read letters from other children, and I hope mine will be in print.

Your loving cousin,
EVADNE SPEARS.

◈

DEAR COUSIN SALLY:—I will tell you what I have in my garden. I have cabbage and lettuce and radishes and red beets and flowers. And it is a vegetable garden.

I wash dishes for mama, and I sweep and help brother gather stones for papa. I play with my dollies. I like a story about flowers. I am seven years old. I cannot think of any more to write, so good-by.

Your loving cousin,
RUTH E. GARBER.

THINGS WORTH KNOWING

Results of Deforestation in China

THE wide-spread outcry against the wholesale and wanton destruction of our American forests lends especial point to remarks anent the forestless condition of China, whose example should be brought to the attention of Congress as a warning.

Nowhere in the world is the forest cleaned off down to the very soil as it is in China. When the trees are gone, the saplings, the shrubs and even the herbage are taken. Slender poles are used to build houses; inconsiderable shrubs are turned into charcoal.

In the province of Shantung, where deforestation is practically complete, fuel and fodder for cattle are literally scratched from the hillsides by boys, who go out from villages with their iron rakes in autumn to secure winter supplies. Grazing animals, searching every ledge and crevice, crop the remaining grass down to the very roots.

A dearth of wood is not the only forlorn result of forest devastation; a dearth of water and the ruin of the soil follow in its train. On the waste hills of eastern China the rains rush off from the barren surfaces, flooding the valleys, ruining the fields, and destroying towns and villages. No water is retained at the higher levels, so that none is fed underground to the lower soils or to the springs. As a result, even on the plains the water level is too far beneath the surface to be used.

"Forests can be wasted with ease, but may not easily be restored," says the writer; "the need of timely action on the part of our Congress is imperative."—Harper's Weekly.

◈

Potato Gum on Stamps

EVERY time a person licks a United States postage stamp he gets a taste of sweet potato. The gum with which the stamps are backed is made from that succulent vegetable, because Uncle Sam's lieutenants consider it the most harmless preparation of the sort.

All the gum used on American postage stamps is mixed by the government at the bureau of engraving and printing, where the stamps are made. It is spread on the sheets after the stamps have been printed.

The gum in a liquid form is forced up through pipes from the basement where it is made. These pipes lead to a series of machines consisting of rollers, between which the sheets of stamps are fed one at a time.

A continuous fine stream of the liquid gum falls upon one of these rollers. The sheet with its wet coating of sweet-potato mucilage passes from the rollers into a long horizontal flue filled with hot air. When it emerges at the other end of the flue the gum is dry.

The government makes two kinds of postage-stamp mucilage. If one could see the packages of stamps as they come to the post office ready to be sold one would find them labeled, according to season, "Summer Gum" or "Winter Gum." The former is much the harder of the two and was devised some years ago to keep the stamps from getting sticky in warm, moist weather.

While Uncle Sam tries to make the lot of the stamp licker as innocuous as possible he does not advise making a meal off his sweet-potato gum. The whole process of gum making and applying is made as clean as possible, but there is yet another item to be considered.

A sheet of postage stamps is handled a good many times before it even leaves the bureau where it is made. If you must lick any of your stamps, pick out those from the middle of the sheet. The corner ones have gone through the fingers of half a dozen or more counters, not to mention the perforators and the separators and the rest, and naturally they are more soiled than the others.—New York Sunday Sun.

◈

Alphabet in Bible Verse

IN THE twenty-first verse of the seventh chapter of Ezra can be found every letter of the English alphabet. It runs thus:

"And I, even I Artaxerxes the king, do make a decree to all the treasurers which are beyond the river, that whatsoever Ezra the priest, the scribe of the law of the God of heaven, shall require of you, it be done speedily."

But, still more wonderful, in the eighth verse of the third chapter of Zephaniah is contained every letter, including finals, of the Hebrew language.—The London Globe.

The Nation's Presidents

TWENTY-FIVE different men have been presidents of the United States, but only eleven different states have been represented in the executive office. These are Virginia, Ohio, New York, North Carolina, Massachusetts, Tennessee, New Hampshire, Pennsylvania, Kentucky, Vermont and New Jersey. Virginia heads the list with seven to her credit—Washington, Jefferson, Madison, Monroe, William Henry Harrison, Tyler and Taylor. Zachary Taylor was born in Virginia, although he lived most of his life in Kentucky. Ohio follows Virginia closely with her five presidents—Grant, Hayes, Garfield, Benjamin Harrison and McKinley. New York is third on the list with Van Buren, Fillmore and Roosevelt. Three presidents were born in North Carolina—Jackson, Johnson and Polk—but the first two moved early to Tennessee. New Hampshire gave us Pierce, Pennsylvania gave us Buchanan, and Kentucky may well be proud of her single contribution, Abraham Lincoln. From Vermont came Arthur and from New Jersey for two separate terms came Cleveland.



Uncle Sam—"And this is—"
Mother Ohio—"Willie, my sixth. And I still have some more real nice boys at home."

◈

The Supply of Turpentine

WITHIN a few years the turpentine problem will come to the front. While the supply of this commodity is never likely to fail, an inevitable increase in price will go hand in hand with the depletion of the pine forests.

Turpentine can be distilled from all the pines; but the chief source is the pine barrens of the Southern states, extending from North Carolina to the swamps of Florida.

The turpentine camp is, like the oyster grounds, the scene of much cruelty and hardship. Many camps are worked by the labor of convicts, leased out to the contractors by their state governments. These men are housed in strong stockades, on the four towers of which guards sit with loaded rifles. The free camps are recruited in the main by negroes from the coast ports. When a man is "wanted" for any crime, he generally strikes inland for the nearest turpentine camp, where he is sure of a friendly reception.

When the "drip rider," or mounted advance agent, of the company has located a suitable site for a camp, the stockade is erected. The giant still of copper is set up, and day and night the work is kept in operation until the turpentine has been extracted from the trees. To obtain the sap these are scored with an instrument especially devised for this purpose, and the sap, trickling down into a receptacle, speedily evaporates, leaving behind a gummy substance, which is subsequently scraped away, put into barrels and carted to the distillery. There it is converted into turpentine, rosin and water. The rosin adheres to the sides of the vat, and the fluids are drawn off into a barrel. The turpentine, rising to the surface of the water, is then drawn off into a second barrel, after which it is ready for sale.—Harper's Weekly.

Some Wonders of New York City

OVER 250,000 people work at night.

There are 132 department stores, employing over 10,000 people.

There are 112 theaters and two grand-opera houses, which will seat about 110,000 people.

About 45,000 marriages are solemnized every year, which makes one in every eleven minutes.

In 1885 New York had only twenty-eight millionaires; at the present time it has over 2,000.

Over 476,000,000 gallons of water are used every day in the greater city.

A child is born every four minutes, and a death occurs every seven minutes.

The city contains 8,000 lawyers, 5,000 actors, 3,000 actresses, 6,000 artists, 10,000 musicians, 15,000 stenographers, 6,900 salesmen and saleswomen, 1,900 farmers, 1,600 undertakers and 852 female barbers.

No. 1 Wall Street is considered the highest-priced property in the United States. Several years ago it sold for $700 a square foot and is assessed by the city at a little over $4 a square inch.

The transient hotel population is figured at 250,000 people a day. The hotel properties are valued at over $80,000,000.—Success Magazine.

◈

A Strange New Country

IN SPITE of the activity of explorers for many centuries past, there are still portions of the globe that are very little known to the outside world. A country called Ta-Liang-Chang, just south of Tibet, had never until a little over a year ago been penetrated by a white man. Recently Captain D'Ollone, a prominent French traveler, has returned to Paris after a visit to the hitherto almost unknown land. Its inhabitants are called Lolos, and so far as historical records go, they have always been independent. Efforts to subdue them have often been made by the Chinese, but the troops of the latter have invariably been defeated, and many of them captured and made slaves. The Lolos are good fighters, but in maintaining their independence they have been highly favored by the nature of the country. Ta-Liang-Chang is said to be the world's largest natural fortress. It is bounded on the north by a river which cannot be forded, and on the south, west and east by rocky mountains with very few passes.

Captain D'Ollone regards the Lolos as much superior to the Tibetans in civilization. He says that they are the only half-civilized people that he has ever met who have a scientific system of hygiene, and a system of ethics much like that set forth in the Sermon on the Mount. The Lolos live in well-ventilated houses and make a great point of bodily cleanliness. They are brave, polite, true to their promises, and kind to foreigners whom they like. The origin of the Lolos is unexplained, but there is evidence of Chinese blood among them. Their features are regular and almost Grecian in type.—Leslie's Weekly.

Introducing Mrs. Page

[CONTINUED FROM PAGE 11]

go." Taking her hand, and almost crushing it, he said huskily, "God bless you, and good-by. I will write of my plans for you. I find I cannot stand this ordeal any longer and come out of it with honor."

"Hear me a moment," she said, trying to control her voice, "and then, if you can, forgive me. I have basely deceived you."

He interrupted her, "Not basely. I will not believe you capable of any wrong deception, but tell me what you mean."

"My name is not Page, at least only my first name, and I am not Mrs.—anything!"

She raised her eyes to his face, and its breathless joy gave her courage to go on. He made a step toward her; but retreating and blushing, she pleaded:

"No! Please, let me tell you all. My name is Page Claiborne. Indeed, you must listen before you take my hand; and when you hear how wicked I have been, perhaps you won't want to.

"After years at school, an orphan, I returned to the little country village where I was born, to live with a distant cousin. I found I was expected to be nurse to four wretchedly troublesome children; but I would have done that had any kindness been shown me. I was miserable. I came to Washington against her wish, but fortunately I had a little money, and had taken a course in typewriting at school. Oh, I can't tell you all the gnawing anxieties and crushing disappointments I had. I started out that overpoweringly hot day in July, almost penniless, to answer your advertisement. Nearly fainting from exhaustion, I went into a circulating library to rest. In a book was the card I brought you. Want stared me in the face and blunted all my sense of right and wrong. You know all the rest. Can you forgive me?"

"What do you suppose I care for your deception, you poor child," he said, taking her now unresisting hand. "The joy that you are free to be loved and to love in return is all I can think of. This is no place to tell you all I long to say, we are liable to interruption at any moment, and I must not subject you to that—but oh, you cruel girl, how could you let me suffer so over that dreadful husband of whom you could not 'talk,' the agony I have endured expecting the wretch to come in and walk off with you! How soon can you get home, and may I come right at once and get rewarded for my self-denial now, dearest?"

"How can I get home while you hold my hand?" she whispered. "It will take me about ten minutes if you let me go at once."

"Well, on further consideration, you won't go without me. Together we might do it in eight." Then, as he looked into her eyes and saw their answering light, he shut the door, and putting his shoulder against it, said, as he drew her to him, "I am not going to wait any eight or ten eternities for—this."

◈

Watches in the Bread Line

BREAD is called the staff of life because it is the most essential of all the many different foods.

It may come as a bit of information to some readers to know that bread forms an important part in the making of watches. One of our largest watch factories makes use of more than forty loaves of fresh bread each day. The reason it is so extensively used is set forth in the following words of the superintendent:

"There is no secret regarding the use of bread in this factory, and I am willing to tell all I can concerning it. From the earliest times in the history of watchmaking it has been the custom of watchmakers to reduce fresh bread to the form of dough. This is done by steaming and kneading. They then use this dough for removing oil and chips that naturally adhere, in course of manufacture, to pieces as small as the parts of a watch. There are many parts of a watch, by the way, that are so small as to be scarcely visible to the naked eye. The oil is absorbed by this dough, and the chips stick to it, and there is no other known substance which can be used as a wiper without leaving some of its particles attached to the thing wiped."

◈

Happy the man, and happy he alone,
He who can call to-day his own:
He who, secure within, can say,
To-morrow, do thy worst, for I have
lived to-day. —Dryden.

Have You a Piano

in your home? Nothing could contribute more to its beauty. Nothing would add more to your happiness. A handsome piano of well-known make is a source of pride to any family, and an instrument that will bring to the home infinitely more real pleasure and joy than almost anything else. The beautiful tones of a high-grade piano open up in the home a new kind of happiness and good cheer —the happiness of the life worth living.

But the trouble is that most families can't have a high-grade piano. They are too expensive. However, we have found a way by which you can get one of the finest pianos made in America, without paying a cent for it. These pianos will be given to those who send us the most subscriptions to FARM AND FIRESIDE before July 30th. In the next five weeks, if you hustle, you can win a beautiful $750 Mahogany, Oak or Walnut Harrington piano (as you prefer) that will last a whole lifetime and be to you a constant source of pride and happiness. These pianos are full size, brand new, and made by the famous Harrington Piano Company, Fifth Avenue, New York City.



$750 Harrington Piano, Two of Which Are Offered in This Contest

Do You Want a Pony?

There is nothing in the world that will bring more pleasure to a boy or girl than a pretty Shetland pony. They cost almost nothing to keep, and aside from the pleasure derived from riding and driving them, they are genuine pets and so lovable that they are almost regarded as one of the family. But like the pianos, good Shetland ponies are so expensive that few can have them. However, to give our boys and girls a final opportunity to get one of these superb little animals absolutely free of all charge we are now offering two beautiful ponies complete with their outfits, to be given away to the two boys or girls who send us the most subscriptions to FARM AND FIRESIDE up to July 30th. All orders bearing a July 30th postmark will count, but none after that. **In the next five weeks, if you waste no time, you can win one of the very finest ponies and pony outfits in America all for your very own!** There is plenty of time if you hustle—but don't delay. Start to-day—**right now!** Write to the Pony Man, FARM AND FIRESIDE, Springfield, Ohio, **immediately** and ask for full particulars about how you can get a pony or a piano. I will answer you by return mail and send you the pony pictures and lots of other things absolutely free. But to save time, don't wait for my answer. Start right out and get ten of your relatives or friends to take FARM AND FIRESIDE one year at 25 cents each. Then you will be a prize winner anyway. Remember, we **guarantee** absolutely every contestant a valuable prize. You can't lose. Write and start to-day.

The Pony Man

Department J-25

Farm and Fireside **Springfield, Ohio**



Sunday Reading



Day by Day

Sufficient unto the day is the evil thereof. —Matthew vi, 34.

I HAVE a very strong feeling that if we could keep this text always in mind we should be happier and live more useful lives, for we have nothing to do either with the past or future. Our business is to recognize the duty of the present hour only, put our hearts into its eager performance, and neither fret ourselves with the memory of bygone days nor the dread of days to come.

We ought to live one life, not three, and that one life is the life of the present moment.

Yesterday has escaped from us, and we cannot recall it in order to rectify its mistakes. Our arms are not long enough to reach it. Since it has gone, therefore, we have nothing to do with it, except to add its warning to our store of experience, and not blunder in the same way a second time. The future is not ours and may never be ours. We have nothing to do with it. When it comes we will meet it as best we can, but we must put its possibilities out of our minds and not allow them to interfere with what we are doing. We are in full possession of the present only, are face to face with its possibilities, its sorrows, its struggles. They include all that God requires of us, but we must not weaken ourselves for the performance of that special duty which demands our immediate attention.

When to-morrow arrives we shall have strength given us to meet it, and for that reason we can devote all our attention to the work immediately at hand. There has never been a moment in our life when we couldn't bear the pain or sorrow of that especial moment. Human nature, even when in its greatest straits, has a degree of endurance which approaches the marvelous. If we feel sure in the supreme hour of bereavement and struggle that our strength is reenforced by agencies from the unseen world, that the Christ is himself assisting us, that the laws of God's great universe, though they impose the burden, are giving us the ability to bear it, we are possessed of thoughts and of a faith which make us invincible. No enemy can capture us, no disaster can crush us.

The only use of the past is as a warning not to repeat its errors. But if its ghostly reminiscences haunt us and frighten us, they constitute a nervous strain which saps our energy. As for the future, let it take care of itself. It has not arrived yet, and when it does arrive, if we look up for the help that is always at hand we shall be ready for it and equal to it. To-day is all we should think of. If we bend our shoulders to the grief of the present moment, in the sweet consciousness that the angels of heaven are helping us, when other sorrows come, those helping hands will still be there. "Sufficient unto the day is the evil thereof."—George H. Hepworth.

The Fourth Leaf

I know a place where the sun is like gold,
And the cherry blooms burst with snow,
And down underneath is the loveliest nook
Where the four-leaf clovers grow.

One leaf is for hope, and one is for faith,
And one is for love, you know;
And God put another one in for luck—
If you search you will find where they grow.

But you must have hope, and you must have faith,
You must love and be strong; and so,
If you work, if you wait, you will find the place
Where the four-leaf clovers grow.

—Ella Higginson.

◈

Why Complain?

THERE are, after all, but two explanations of human life—Father and Fate—and there is only the difference of two letters there. All philosophies come in the day of trouble to this alternative. If there is no loving Father, why should we complain? We might as well save our breath. Let us be sensible. There is no use beating our sore heads against stone walls. "What are you going to do about it?" is a question the unbeliever may well ask himself. If you cannot be a Christian, be a Stoic; if you cannot live in Jerusalem, live in Sparta. To rebel is useless.

In our Father's school are many benches. This life is school time. Whatever the word God writes on the top of your page —Patience, Courage, Forgiveness, Resignation—copy it over and over until He gives you another word. Never murmur. Do your best to solve your problems. If they are hard, try hard. If you are in the dark, say, "Speak, Lord, for thy servant heareth." When you feel like complaining, listen. Be still before God. David said, "I was dumb, I opened not my mouth, because thou didst it." That is better than moaning and lamenting; but let us leap from David to Jesus, and say, "The cup which my Father hath given me, shall I not drink it?" "Father, glorify Thy name." So shall we be made perfect through suffering, and the trial of our faith be found to praise the honor and glory at the appearing of Jesus Christ in us now, and in the day of triumph by and by.—Maltbie D. Babcock.

◈

A Resolution

INJURIES hurt not more in the receiving than in the remembrance. A small injury shall go as it comes; a great injury may dine or sup with me; but none at all shall lodge with me. Why should I vex myself because another hath vexed me? Grief for things past that cannot be remedied, and care for things to come that cannot be prevented, may easily hurt, can never benefit me. I will therefore commit myself to God in both, and enjoy the present.—Joseph Hall.



A ROLLING-STONE TOMB

This is the kind of tomb in which Christ was buried. We can understand here how a person would stoop down and peer into the tomb a step or two below. This confirms the scripture narrative.

THE HANDIEST HANDY CART

OF ALL the handy things that I have had on the farm, for general purposes and practical utility my low-down cart is the handiest. One of the best evidences of this is the fact that it is in almost constant use around the buildings or some part of the six-hundred-acre farm, from early morning until night—carting the milk cans from cow stables to dairy house; the skim milk from separator to the pigs and calves; moving feed in bulk and bag from building to building; tools, fertilizers and seed to the fields; the spraying outfit among young orchards and small fruits; slops to the hogs; fruit and vegetables to the packing sheds; wood to the kitchen, and mothers and litters of young pigs and other young things from place to place, as well as a hundred and one other things that are always coming up to be done everywhere about the farm.

One of the questions most often asked about the place is, "Where's that cart?" We have three now, and will soon have to have another.

One of the best features about this style of cart is that it may be built in any size, from a small hand cart, as a substitute for a wheelbarrow, to a heavy affair suitable for use with a draft horse. For hand use it so far ahead of a barrow that there is no comparison. There is no lifting and straining at a load, for it is balanced on the wheels, and all that is required is a push or pull, and on a smooth road it is play to handle even as much as a quarter of a ton. We have some for stable cleaning, and think them better than overhead carriers, and are more easily dumped than barrows, while their capacity is five times as great.

We have a pony, that is next to the handiest thing on the farm, and he and the cart, which is built just his size, are, aside from the old hen in the garden, the very busiest two properties on the place, being in constant commission at routine work and to answer hurry calls for anything needed from anywhere to everywhere; and he seems to enjoy it, for he can tote off a ton or so at a trot quite easily. We wouldn't farm without them now, and often wonder how we ever did. And I am very sure that you will be of the same mind after you have built and used one for a few days.

Construction Plans

In the accompanying cuts Fig. 1 shows the bed of one of these carts made up, with the axle bent ready for the wheel, with braces, shafts, etc. Fig. 2 shows working plans of the various parts of its construction, from which any man handy with tools can readily build one, varying the dimensions according to the purpose for which it is to be used. For the pony cart the bed (side elevation of which is shown in outline in Fig. 2) is four feet in length on the bottom and five feet on top. The slant from top to bottom is given, so that the animal may be hitched close without striking the bed.

Fig. 3 shows the manner of bracing the rear end sides. This brace should be very heavy and run all the way up the side, as much pressure is often brought to bear on the bed side. A strong strap iron, with L welded on at the floor base, run up on the inside and bolted through the bottom cross bar, is also needed. If this strap is U shaped, as on our last make, it will serve as a slide for the end gate, convenient to have in moving hogs or young stock.

Fig. 4 shows the inside brace on the shaft and cross bar. This may be of strap iron one fourth inch thick and two inches wide, firmly bolted at the connecting points, for aside from the pulling strain on the cross bar, to which the singletree is attached, there is much side tension on the shafts at this point, especially when turning on soft ground. The heaviest strain on any brace, however, is that running from the bottom of the bed to well out on the under part of the shaft, and for a pony or horse cart this brace should be of not less than three fourths or one inch iron, flattened at the connecting points for drilling the bolt holes. No matter how well the cart may be built in the wood, it will soon go to pieces unless it is well and heavily ironed and braced, especially if it is put through such hard usage as we give ours.

Fig. 5 indicates the location of the axle on the bottom and side of the bed. The length of the upright part of the axle will depend on the height of the wheel to be used, adjusting it so that the body of the cart will, when level, rest eight to ten inches above the ground. I find the best height of wheel to be one that will about reach to the top of the shaft line on a bed having sides two and one half to three feet high. The wheels bear much strain, and should be good, heavy ones for pony or horse size, having not less than a one and one half or two inch tire. For the hand carts almost any sort of wheel will do. The wheels from worn-out cultivators, after being tightened up and tires reset, are serving our purpose as well as any new factory wheels. If they are good, heavy wheels of the type used on late-model cultivators, they will answer for the horse cart as well.

Fig. 6 shows the elbow bends of the axle, with wheel in relative position. Since there is a constant strain on both these elbows, depending on the load, they should be heavily reenforced at these points. Our most notable mistake in the first cart built was in the neglect of this one thing. Be sure to have the blacksmith "swell" the iron well at the bends and see that no flaw creeps in. For a hand cart a bar of iron from some of the discarded farm machinery will answer. For the heavier carts the axle should be

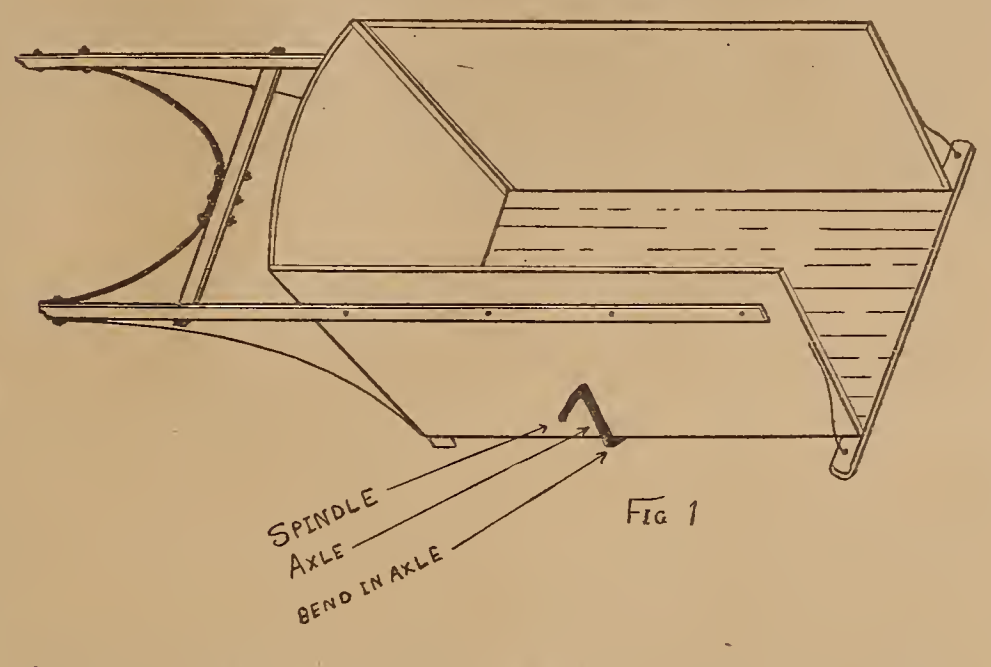


FIG 1

of from one by one and one fourth to one and one half by one and one half inch steel. Stub axles (with boxes ready to set in the wheel) are welded to the axle at "n." The work on the axle will necessarily have to be done by a blacksmith. If you have the tools, the other ironing may be done on the farm.

The woodwork of the cart may be made of odds and ends about the place for the hand carts, but for the larger ones it is best to have good, sound, straight-grained lumber. Considering the rough and tumble you will more than likely give it, the expense will be more than justified by the increased durability. Where it is possible to get the width, the sides should be made of one solid board; it will pay in the end. Poplar may be had in these widths and the board should be a full inch thick for a horse cart. If more than one board is used, heavy strips are placed on the outside up and down. It is well to make the floor a double one, first laying wide boards on the cross bars and make up the bed, then, when finished, laying a hard-wood floor of narrow

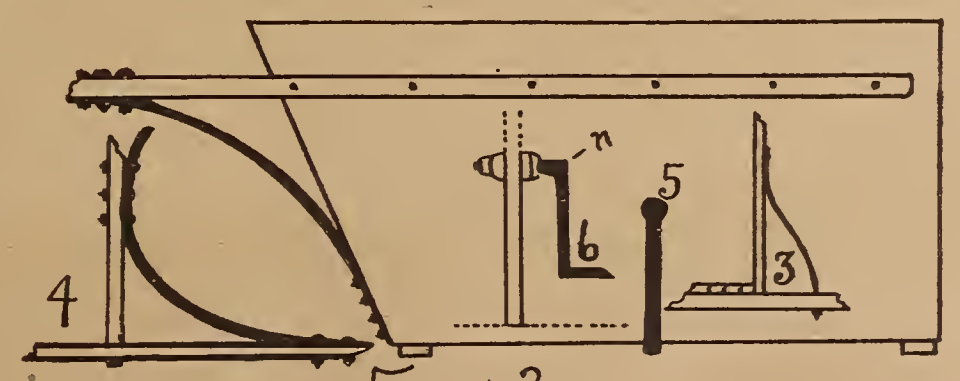


FIGURE 2

matched boards on these, sealing the match with white lead and oil and afterward covering the floor with hot boiled oil. There will be more real wear and tear on the floor than anywhere else, and it pays to start right with it. Bird's-eye maple wears best for us.

Use heavy quarter-round strips in the forward corners of the bed and run lighter ones along the floor at the edge of the bed. The shafts should run the full length of the bed and be of not less than one and one half by two inch hard wood. For the hand carts of various size the ironing and bracing and woodwork is not so important and may be made up of anything that comes first to hand. A nail should not find a place in the construction of a large bed, except in laying the hard-wood floor; use heavy screws and bolts for fastening everything else, or the rack and strain will soon loosen it up. The width of the bed outside will be from two feet four inches to three feet, according to the size of the animal to be used, and the axle inside the lower bend should be made to fit this measurement snugly.

R. M. WINANS.

HOME AND LAWN

What is home without a lawn? A shelter where to eat and sleep—nothing more. Even the "dago" who spends eight or ten hours a day plying the shovel in the railroad ditch or track makes a garden, and loves flowers, and tries to make the best of his modest home surroundings—the poor, illiterate foreigner upon whom the American laboring man is wont to look with disdain, and compared with whom the average American laborer, if he cares for his home rather than for the saloon, is a scholar and a prince. The habit of ornamenting home surroundings, however, has grown wonderfully among American people in even the most modest walks of life. A nice shade tree or two near the house, such as a Colorado blue spruce or other evergreen, or even a sweet cherry, may be desirable. The lawn is indispensable.

A Harrisonburg, Louisiana, lady asks about the best grass or grasses for a good lawn to be green the entire year. She has two pieces of ground—one very rocky and hilly, the other level and on the Gulf coast.

For Northern sections I know of nothing superior to Kentucky blue grass (or June grass). This should always form the bulk of the lawn-grass mixture. With it may be mixed redtop or herd's grass or Rhode Island bent grass, and perhaps a little white clover. Kentucky blue grass grows somewhat slow, but after it once has taken a firm roothold it is there to stay against all newcomers, and nothing much finer need be looked for in that line than a lawn of clear Kentucky blue grass.

I have never made a lawn in Louisiana or any other Southern state; but we have no better authority on such matters than P. J. Berckmans, of Georgia, who in "Cyclopedia of American Horticulture" regrets the scarcity of handsome lawns throughout the South, but denies that this is caused by a lack of proper grasses possessing sufficient resisting power to withstand the long, warm summers.

It appears that many of our Northern grasses which are so well suited for lawn purposes here do not take kindly to Southern conditions. Blue grass, however, will answer in most places if the land is well prepared and fertilized and the lawn kept irrigated and generally well taken care of. Among the several native and exotic grasses which Mr. Berckmans named as being resistant to long summer heat, and when properly treated, affording excellent lawn-making material, stands first of all Bermuda grass, which on account of its trailing and stoloniferous habit has become feared as a weed pest in cultivated fields, and also begun to be appreciated as a pasture, hay and lawn grass. Joint grass and goose grass are also suitable grasses for permanent Southern lawns if too wet for Bermuda.

To make a lawn with Bermuda grass, secure a quantity of the roots, cut them in short lengths with a hay cutter, and sow the pieces on the well-prepared ground, raking or harrowing them in. This may be done in February, March or in the fall. Use the lawn mower freely. In the fall apply a coat of fine, old manure. Rake this off in the spring, and if possible at that time run a sharp-toothed harrow over the lawn, and finally roll it.

Altogether, a good lawn in front of or surrounding the residence is well worth all the pains required to make it. It at once makes a home out of a mere shelter.

T. G.

BERMUDA GRASS FOR HAY AND PASTURE

Bermuda grass, also known as Bahama grass, seems to have considerable value as a hay and pasture grass for many sections of the South—as, for instance, Oklahoma. In a test of various grasses made by the Oklahoma station, Bermuda grass alone, of a large number of grasses grown, possessed the requirements of a pasture grass for Oklahoma conditions, and later experience also shows it to have superior value for hay as compared with the wild grasses.

The station reports that Bermuda hay contains twice as much digestible nutrients as the best of prairie hay, is much more palatable, free from stems and weeds, and in every way superior to hay made from wild grasses.

Undoubtedly there are many localities where this grass is not known, but which offer similar favorable conditions for it, and where its introduction and use will be of great help to stock raisers. This is one of the instances where new and important uses are discovered in things heretofore looked upon with suspicion and contempt.

T. G.

MAKING USE OF WEEDS

We may have "builded better than we knew" when we made a practise of gathering certain noxious weeds in garden and fields and giving them to our stock, especially to pigs and poultry. Analyses of eighteen samples of common weeds showed that many of them withdraw large amounts of nitrogen from the soil. The large amount of protein in the dry matter was particularly noticeable in purslane, lamb's quarters, or pigweed, and cheese weed, or mallow. The dry matter of these weeds is said to contain more protein than is found in either alfalfa or clover.

It may be all right to keep a few sheep on the farm for the purpose of utilizing and controlling such weeds. But knowing that in the dry state these weeds are as rich in the most important food element as grain, we will have an additional inducement to look after them, and to make use of them by feeding them to any stock we may have ready to take them.

What a lot of purslane, pigweeds, etc., pigs and poultry kept in confinement will consume! I have piled wheelbarrowloads and wagonloads of them into the pig pen, the poultry yard, the cow mangers, and thereby converted a curse into a blessing.

T. GREINER.

THE LAST PLOWING OF CORN

The first plowing of corn is very important, for all grass and weeds that have started must be destroyed. The last plowing is just as important, for the soil is to be left in a proper condition to stand dry or wet weather.

I have had a good deal of experience in laying by the corn. When I was a boy we hilled it up with a diamond plow about the time it was tasseling, long after it was impossible to get into the field with a cultivator. This method never proved very satisfactory, because the plow would cut the roots that had sprangled out between the rows. If it turned off dry, as was sometimes the case, the corn would wilt and often fire up. Then if the land happened to be flat, and rainy weather set in, the water would stand between the rows. If the land was steep, great gullies would be washed out between the rows. So this method was dispensed with.

Then we threw the soil to the corn with the cultivators at the last plowing, and turned it over to the fate of wind and weather. This was an improvement over the first plan, for the corn was laid by before the roots ran very far out into the rows; but still the water did its usual damage in rainy seasons, and in droughty times the soil in the furrows would bake hard.

Finally we adopted a more satisfactory plan. The soil was stirred thoroughly and deep and was left level between the rows or very slightly ridged toward the corn. This left a good soil mulch which would not bake in dry weather and was little disturbed by heavy rains. Then if the field was to be put in wheat after the corn was cut, or in oats the next season, there was no trouble in working the soil to get it leveled down. All things considered, the level plowing for the last one has proven the more satisfactory to us, and we believe will to most farmers.

W. D. NEALE.

NEW SAWS AND FRESH FILINGS FOR FARMERS

Fortune favors the farmer.

As the farmer, so his farm!

The more we advance, the more we add to our chance.

The farm is an old institution with a new purpose.

When your hat is off at home, be at home sure enough.

The greatest thing on the farm is work and the love for it.

Where there is no dignity of labor there is no dignity of leisure.

Stick to the soil and the gift of the soil will stick to you.

What a man is to-day depends upon what his purpose was yesterday.

A little more care in cultivation leads to a little more crop, coin and contentment.

No matter how hard it rains, there are always a few dry spots around the barn.

The largest thing about a man is his heart, therefore the most difficult to satisfy.

Pay your debts if you have the money; if you haven't, borrow the money and pay them anyway.

Farming is like running a gold mine—nearly all that comes out of the ground is turned into gold.

Half the farm world does not know how the other half lives—because it does not read the farm papers.

Some men sell their farms for so much an acre, and some stick to the farm and make it bring about that much each year.

Though narrow is the way to heaven, it leads over the universe; and though narrow is the furrow, it leads all over the field.

That old gate which has been an eyesore ever since it was taken down and set up in a corner should be cut up for stove wood and put out of sight.

W. J. BURTSCHER.

OHIO CORN IMPROVEMENT ASSOCIATION

The Ohio Corn Improvement Association has appointed as a committee on corn institutes and expositions, with myself as chairman, the following members: L. P. Bailey, Tacoma; Howard McCune, Wilmington; Wm. Sprenger, Washington, C. H.; F. H. Owen, Marion; D. M. Weaver, Leipsic. Mr. Owen is secretary of the committee.

The line of work which it is expected that the committee will take up will be the general supervision of the local corn institutes, and the management of the state corn show. We are also to represent Ohio in the National Corn Exposition.

Among the more important questions upon which the committee has taken action are the following: It has been decided to hold the state corn show at Columbus late in November and to offer some valuable prizes in several classes for the best samples of corn, which will include prizes for the largest and best county exhibits. We shall make every effort to make the show as educational and instructive as possible. Along this line we have inaugurated a new idea in regard to farm management, and will offer prizes for the best reports on the cost of corn production. The main elements of this contest being the yield an acre, the relation between the yield and cost of production, and the accuracy in the records of accounts.

The state association will not claim the ownership of all corns exhibited, but reserves the right to select any samples for sending to the National Exposition at Omaha, December 10th to 19th, to be exhibited in the owner's name. It is planned that the corn which is sent to Omaha will be sent in one shipment from Columbus, without expense to the exhibitor.

V. M. SHOESMITH.

Ohio State University.

THE MOLE

Whether we should class the mole as a benefit or a pest seems to be undecided. When moles are very plentiful they are classed as pests by the farmers. While, without doubt, they destroy numerous insects which are harmful to the growing crops, yet they are a nuisance at many times.

They live in waste land along streams, in "new ground" under stumps, and in pasture fields. They often live in "mole hills," as they are called, which consist of earth thrown up from underneath, and greatly resemble ant hills or mounds. The water, for some reason, does not penetrate these "hills," and under these their beds are made.

The worst places we have to contend with them in central Indiana is in getting a "stand" of corn in new ground or fields bordering woodlands, or waste land along the streams, this being one of their favorite breeding grounds.

One of the most successful ways to rid the newly planted corn field of them is the old-fashioned way of catching them. After a rain, when they will begin their workings, tramp down the trails, then walk easily and cautiously about the workings, and watch for them to "work;" when one is sighted working, step to the spot as quickly as possible, and set the foot down firmly behind him. This shuts off his retreat, and he can be dug out.

A trap can be successfully used after some experimenting. Their runs from breeding grounds to feeding grounds should be hunted up. Usually a run or burrow comes into the field, then spreads in the shape of a fan over quite a section. Often a whole family will come in through one run. This is the place to set the trap, just where they enter the field. There are several good makes of traps, and directions for setting usually come with each trap.

The farmers of central Indiana cannot speak of those which infest our corn fields other than as pests, for so many times we have had to replant heavily or plant over.

OMER R. ABRAHAM.

OUR GIRLS OUR HOPE

The future welfare of our country depends almost wholly upon whether the girls of to-day are trained to do whatever is ennobling and useful. They are to be the women of to-morrow. Whatever they become by their practical education at home and in the school will in a great measure be characteristic of them during the remainder of their lives.

The home is the foundation of the state, and the most important factor in making it what it should be is the woman who presides over it. It is therefore very important that our girls be thoroughly instructed in the art of home making ere they become home keepers. What is needed now is thorough training in the art of cooking, laundry work, in fact in everything pertaining to general housekeeping. Clean, bright, well-regulated homes will send out into the world young men and women who will be a credit to their native states and a power for good wherever their future homes may be.

The great questions to be considered are: "What will the majority of our farmers' daughters do after they leave school?" "What will they be best fitted to do?" "Have they been specially trained for real, every-day duties, such as they will inevitably be called upon to assume at some period of their lives?"

Whatever training can be had, it is all-important that it be of a practical character, such as is needed in every position in life. Every young woman should be trained to do some useful work in the best way, whether she expects to teach, do office work, engage in business, or preside over a farm home, which, after all, is the ideal one, and the one best fitted to develop the highest type of woman. Happiness does not come from the possession of wealth. Better a cottage presided over by a loving, devoted wife than a palace where love has no place. The ideal life can be lived only in the ideal home, the making of which is possible by those who are specially fitted to do their share of the world's work.

"OLD OBSERVER."

FROM THE TEACHER'S POINT OF VIEW

When my health failed, after years spent in the schoolroom, I found that the few thousand dollars I had saved would not yield a living if put out on interest, so I bought a few acres near my home town, a village of about two thousand in western Indiana. I have owned this place two years, and while we have made a living, we have not as yet much money, as it has to go back into the farm.

To make a success of anything takes hard work, and to be a successful farmer, either by raising grain, hogs or fruit, or by a combination of these, one must give his time and attention to the business.

As I had raised strawberries quite successfully in town, I thought with two acres planted in strawberries I would soon be a bloated bondholder. I had not counted on frost, white grubs or ants. Besides strawberries we raise a few acres of corn, oats, blackberries, potatoes and melons. Corn and oats in this part of the country last year, although not a failure, did not yield well, the blackberries were almost a failure and the melons an entire failure.

My sister and I do all sorts of outdoor work—raising chickens, hoeing strawberries, working in the garden—doing everything a man does. I have read of women taking care of two or three acres of strawberries. I say they cannot do it without a man's help. I have a man on the place to do all of the heavy work.

If I were going to start anew I should buy a few acres—not more than five—near a thriving city, and with the experience I now have, put two acres in strawberries. I would not advise a person who has not tried raising them to begin with so large a patch. I have found that strawberries are never a complete failure. With all the grubs and ants we had to contend with last year, and the blossoms frozen three times, the plants bloomed a fourth time, and we cleared two hundred dollars an acre. Then I would have a fine garden, raise plenty of lima beans, early potatoes and melons. Chickens could be raised, also, though they are disappointing, not laying eggs when you need the money the most.

I love the farm and do not want to discourage any one who wants to farm, yet I should like them to know that the farmer does not live on Easy Street.

M. R. H.

AGRICULTURAL NEWS-NOTES

The principal olive-growing counties in California are Los Angeles, Butte and Sonoma.

Kern County, California, has about 500,000 sheep, and Tehama County has about 325,000.

Chicago cherry eaters paid two dollars a pound for the first cherries arriving from California this season.

Whoever plants a forest tree that will continue to grow after the planter has passed away, has not lived in vain.

It is estimated that in a good season southern California will produce not less than three hundred carloads of honey.

Popcorn is now being grown in the Northwest to a considerable extent by small-farm owners. The most popular sort is the white rice.

On sandy soil during six years the value of the crops an acre has been increased $72.71 by nitrogen, and only twenty-two cents by phosphorus.

An Iowa farmer who has a thirty-five-acre field of Bokhara or sweet clover thinks highly of it not only for the production of honey, but for pasturage, also.

The primary object of a soil survey, to determine the geological structure of the soil, is to ascertain its value for the production of one or more special crops.

"There is but one person whose welfare is as vital to the welfare of the whole country as is that of the wage worker who does manual labor, and that is the tiller of the soil—the farmer."—Roosevelt.

The fifteenth annual convention of the National Hay Association, of which P. F. Goodrich, of Winchester, Indiana, is secretary, will be held at Cedar Point, Ohio, July 28, 29 and 30, 1908. Cedar Point is near Sandusky, on Lake Erie.

Beets are one of the best-paying crops in Michigan. The average yield on the ninety thousand acres that were grown last year was eight and one half tons an acre, which netted the growers $5.75 a ton, or about $48.87 an acre.

Prof. F. B. Weeks of the United States Geological Survey Bureau, in his report on phosphate deposits in Utah, Wyoming and Idaho, states that the production of Florida phosphate now amounts to 1,300,000 tons a year. This phosphate is mainly exported to European countries.

Whatever upheavals occur in the manufacturing or commercial world to lessen the demand for labor, there yet remains the soil, ready to be cultivated and ready to produce that upon which we are all depending for sustenance. Where there is soil, labor is sure of its reward. Farmers are feeding the world.

The statement by expert statistician B. W. Snow, of Chicago, that a poor corn crop is grown about every seventh year, should be taken with some grains of allowance. He intimates that the rainfall of last year was below the average for seven years, and therefore is inclined to predict a short corn crop in 1908.

The oldest agricultural experiment station in the world is to be found at Rothamsted, England. It was founded by the late Sir John Bennet Lawes in 1843. The long, unbroken continuity of the investigations carried on there is one remarkable feature, while the gift of $500,000 by Sir John Lawes for their permanent continuance indicates the importance of the work.

The profitableness of making alcohol out of damaged, unfermented fruit, plants and vegetables possessing saccharine qualities is soon to be tested at the United States Department of Agriculture under the immediate supervision of Doctor Wiley. It is expected that one graduate from each agricultural college will be present to acquire skill in the production of alcohol for agricultural and mechanical purposes.

GEM JUNIOR Safety Razor

The Gem Junior with the New Bar does the hand-work of the barber, tightens the skin and raises the hairs vertically, giving a perfect, close, delightful shave with no scraping. Just lather and shave—that's all.

New frame with Bar sent to present users of the Gem Junior Safety Razor on receipt of 25c. No exchanges.



$1.00 Complete with 7 selected blades, frame, shaving and stropping handle, in handsome case.

Separate set of 7 Gem Junior Blades 50c

Each Gem Junior blade is absolutely guaranteed to shave better than any other regardless of name or price. Each bears the name. *Beware of imitations.*

A storiette "The Gentle Art of Self Shaving" including a full course in shaving, sent Free.

GEM CUTLERY COMPANY
34 Reade Street New York
London, E. C., 35 Aldermanbury
Paris: 24 Rue de Constantinople. Hamburg: Pickenhuben 4
We are the original Modern Safety Razor Makers.

68 TONS OF HAY BALED IN 10 HOURS THE COLUMBIA DID IT

Will maintain that record day after day with competent help. Simple, strong, extremely light running. Gasoline or horse power



ANN ARBOR MACHINE COMPANY
Box 66
Ann Arbor, Mich.

FREE BOOK

$3.29 AVERAGE REPAIR BILL FOR 1907

Stickney Gasoline Engines ARE THE BEST

1½ to 16 H.P.



Because the Electric Igniter is outside the cylinder where it is cool and the spark can be seen, because of our modern cooling system and because of 57 reasons told in Stickney's Free Catechism.

Stationary and Portable

We have thousands of engines in successful operation because of our years of experience in making engines of the best material and most accurate workmanship. Send for Catalog

Charles A. Stickney Company
ST PAUL, MINN. - BOSTON - KANSAS CITY, MO.



CIDER MACHINERY

We have had 35 years' experience in furnishing outfits for both Custom and Merchant Cider Mills.

OUR GOODS ARE THE STANDARD.

Send for catalogue.

BOOMER & BOSCHERT PRESS CO.,
99 West Water St., Syracuse, N. Y.

BALES 15 TONS A DAY HAY

—often 18 and 20 tons. Such wonderful records are possible because our Gem Full Circle Steel Baler has a large feed opening, automatic brake device, small trip lever and long pitman travel. Either two or three stroke, and self-feed if desired. We will save you $25 or more in first cost and much more every year in repairs. Drop us a postal for prices and a free copy of our "Baler Book."

GEO ERTEL CO., QUINCY, ILL.

SAVE YOUR BACK

Save time, horses, work and money by using an

Electric Handy Wagon



Low wheels, broad tires. No living man can build a better. Book on "Wheel Sense" free.
Electric Wheel Co., Box 96, Quincy, Ill.



ORNAMENTAL FENCE

25 DESIGNS, ALL STEEL

Handsome—cheaper than wood—more durable. Special prices to churches and cemeteries. Don't buy a fence until you get our free catalogue.
Kokomo Fence Machine Co.
427 North St., Kokomo, Ind.



DON'T RUST FARM FENCE

Sold direct to farmers at manufacturers' prices. Catalogue free. Freight prepaid.
THE WARD FENCE CO.
Box 867 Decatur, Ind.

It is to your advantage to mention Farm and Fireside in writing to advertisers. Farm and Fireside folks get the very best attention.